

LC4.41A AA

Service Service Service

For manual SDI PDP see: 3122 785 16380/14990
For manual FHP PDP see: 3122 785 16400/14580
For manual LGE PDP see: 3122 785 16390/15590



Service Manual

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1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

- 1.1 Technical Specifications
- 1.2 Connection Overview
- 1.3 Chassis Overview

Notes:

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

Presets/channels

: 1280x720p - 3fH
 : 1920x1080i - 2fH

Tuner bands

: VHF
 : UHF
 : S-band
 : Hyper-band

1.1 Technical Specifications

1.1.1 Vision

Display type	: Plasma
Screen size	:
- 42PF7320G/79/98	: 42" (107 cm), 16:9
- 50PF7320G/79/93/98	: 50" (127 cm), 16:9
Resolution (HxV pixels)	:
- 42PF7320G/79/98	: 852 x 480
- 50PF7320G/79/93/98	: 1366 x 768
Contrast ratio	: 3000:1
Light output (cd/m ²)	: 1000
Viewing angle (HxV degrees)	: 160x160
Tuning system	: PLL
TV Colour systems	: PAL B/G, D/K, I : SECAM B/G, D/K, L/L'
Video playback	: NTSC M/N 3.58, 4.43 : PAL B/G : SECAM L/L'
Supported computer formats	: VGA (640x480) : MAC (640x480) : SVGA (800x600) : XVGA (1024x768)
Supported video formats	: 640x480p - 2fH : 720x576p - 2fH

1.1.2 Sound

Sound systems : NICAM B/G, D/K, I, L
 : AV Stereo

Maximum power (W_{RMS}) : 2 x 15

1.1.3 Miscellaneous

Power supply:
 Mains voltage (V_{AC}) : 90 - 276

Mains frequency (Hz) : 50 / 60

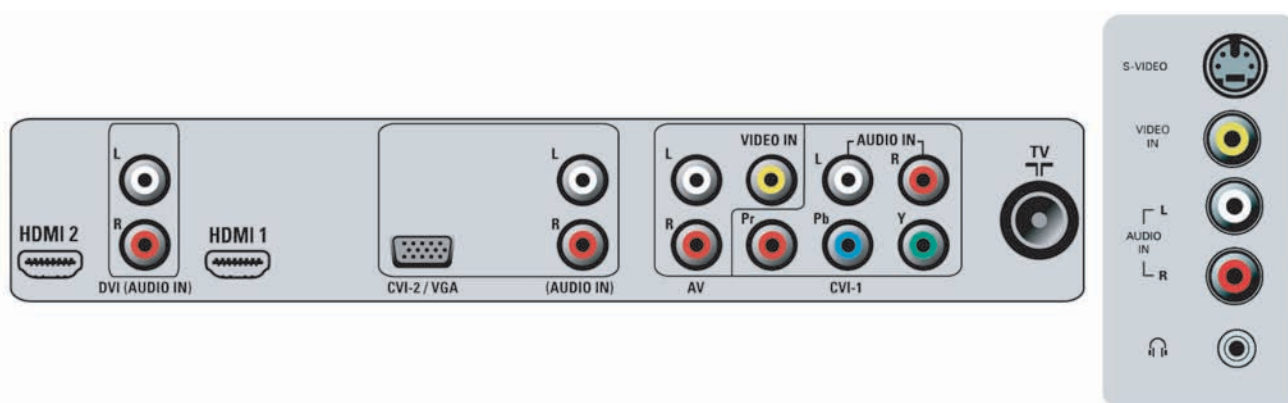
Ambient conditions:
 - Temperature range (°C) : +5 to +40
 - Maximum humidity : 90% R.H.

Power consumption:
 Normal operation (W) :
 - 42PF7320G/79/98 : 160
 - 50PF7320G/79/98 : 290
 - 50PF7320G/93 : 360
 Stand-by (W) :
 - all sets except 50PF7320G/93 : < 1
 - 50PF7320G/93 : < 2

Dimensions
 (WxHxD cm without stand) :
 - 42" : 123.6 x 72.0 x 28.0
 - 50" : 141.2 x 78.0 x 10.4

Weight (kg) :
 - 42" : 39.0
 - 50" : 50.0

1.2 Connection Overview



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Figure 1-1 Rear and side I/O connections

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Side I/O connections

S-Video (Hosiden): Video Y/C - In

1	- Ground Y	Gnd	⏏
2	- Ground C	Gnd	⏏
3	- Video Y	1 V _{PP} / 75 ohm	⊕
4	- Video C	0.3 V _{PP} / 75 ohm	⊕

Mini Jack: Audio Head phone - Out

Bk	- Head phone	32 - 600 ohm / 10 mW	⏏
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Cinch: Video CVBS - In, Audio - In

Wh	- Audio L	0.5 V _{RMS} / 10 kohm	⊕
Rd	- Audio R	0.5 V _{RMS} / 10 kohm	⊕
Ye	- Video CVBS	1 V _{PP} / 75 ohm	⊕

1.2.2 Rear Connections

HDMI1&2: Digital Video/Digital Audio - In

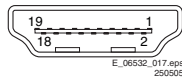


Figure 1-2 HDMI (type A) connector

1	- D2+	Data channel	⊕
2	- Shield	Gnd	⏏
3	- D2-	Data channel	⊕
4	- D1+	Data channel	⊕
5	- Shield	Gnd	⏏
6	- D1-	Data channel	⊕
7	- D0+	Data channel	⊕
8	- Shield	Gnd	⏏
9	- D0-	Data channel	⊕
10	- CLK+	Data channel	⊕
11	- Shield	Gnd	⏏
12	- CLK-	Data channel	⊕
13	- n.c.		
14	- n.c.		
15	- DDC_SCL	DDC clock	⊕
16	- DDC_SDA	DDC data	⊕
17	- Ground	Gnd	⏏
18	- +5V		⊕
19	- HPD	Hot Plug Detect	⊕
20	- Ground	Gnd	⏏

Cinch: DVI Audio - In

Rd	- Audio - R	0.5 V _{RMS} / 10 kohm	⊕
Wh	- Audio - L	0.5 V _{RMS} / 10 kohm	⊕

CVI-2/VGA: Video RGB - In

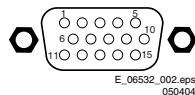


Figure 1-3 VGA Connector

1	- Video Red	0.7 V _{PP} / 75 ohm	⊕
2	- Video Green	0.7 V _{PP} / 75 ohm	⊕
3	- Video Blue	0.7 V _{PP} / 75 ohm	⊕
4	- n.c.		
5	- Ground	Gnd	⏏
6	- Ground Red	Gnd	⏏
7	- Ground Green	Gnd	⏏
8	- Ground Blue	Gnd	⏏
9	- +5V _{DC}	+5 V	⊕
10	- Ground Sync	Gnd	⏏

11	- n.c.		
12	- DDC_SDA	DDC data	⊕
13	- H-sync	0 - 5 V	⊕
14	- V-sync	0 - 5 V	⊕
15	- DDC_SCL	DDC clock	⊕

CVI-2/VGA: Cinch: Audio - In

Wh	- Audio L	0.5 V _{RMS} / 10 kohm	⊕
Rd	- Audio R	0.5 V _{RMS} / 10 kohm	⊕

AV: Cinch: Video CVBS - In, Audio - In

Wh	- Audio L	0.5 V _{RMS} / 10 kohm	⊕
Rd	- Audio R	0.5 V _{RMS} / 10 kohm	⊕
Ye	- Video CVBS	1 V _{PP} / 75 ohm	⊕

CVI-1: Cinch: Video YPbPr - In

Gn	- Video Y	1 V _{PP} / 75 ohm	⊕
Bu	- Video Pb	0.7 V _{PP} / 75 ohm	⊕
Rd	- Video Pr	0.7 V _{PP} / 75 ohm	⊕

CVI-1: Cinch: Audio - In

Wh	- Audio L	0.5 V _{RMS} / 10 kohm	⊕
Rd	- Audio R	0.5 V _{RMS} / 10 kohm	⊕

Aerial - In

-	- IEC-type (EU)	Coax, 75 ohm	⏏
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Service connector (UART)

1	- UART_TX	Transmit	⊕
2	- Ground	Gnd	⏏
3	- UART_RX	Receive	⊕

Service connector (ComPair)

1	- SDA-S	I ² C Data (0 - 5 V)	⊕
2	- SCL-S	I ² C Clock (0 - 5 V)	⊕
3	- Ground	Gnd	⏏

1.3 Chassis Overview

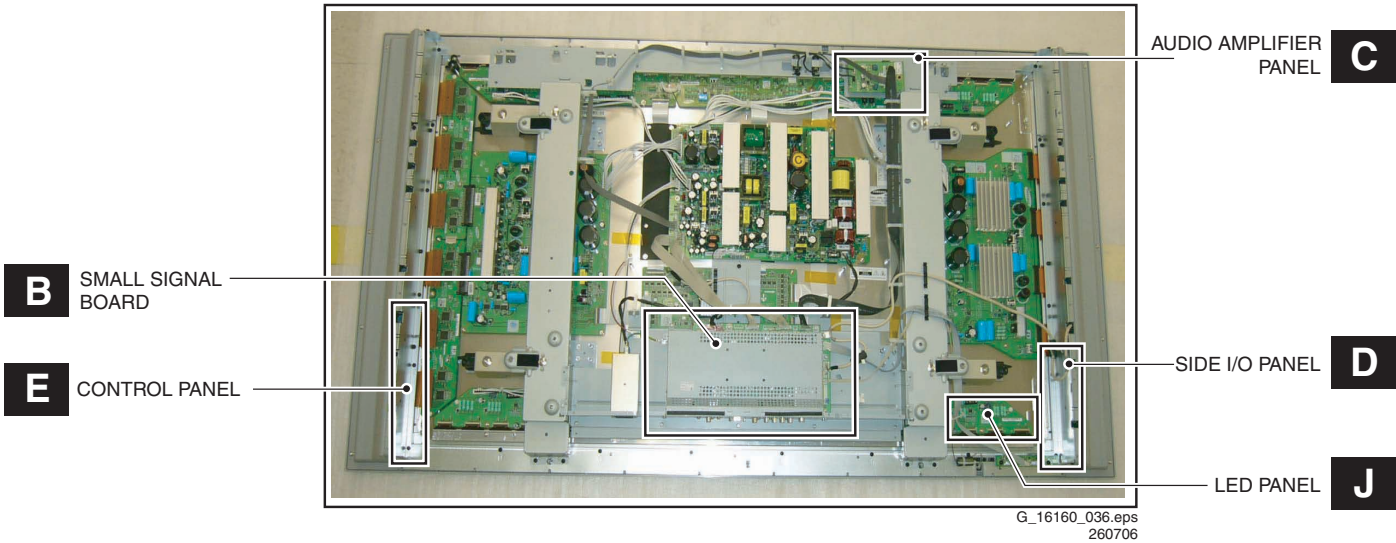


Figure 1-4 PWB/CBA locations


2. Safety Instructions, Warnings, and Notes

Index of this chapter:

- 2.1 Safety Instructions
- 2.2 Warnings
- 2.3 Notes

2.1 Safety Instructions


Safety regulations require the following **during** a repair:

- Connect the set to the Mains/AC Power via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains/AC Power lead for external damage.
- Check the strain relief of the Mains/AC Power cord for proper function.
- Check the electrical DC resistance between the Mains/AC Power plug and the secondary side (only for sets that have a Mains/AC Power isolated power supply):
 1. Unplug the Mains/AC Power cord and connect a wire between the two pins of the Mains/AC Power plug.
 2. Set the Mains/AC Power switch to the "on" position (keep the Mains/AC Power cord unplugged!).
 3. Measure the resistance value between the pins of the Mains/AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
 4. Switch "off" the set, and remove the wire between the two pins of the Mains/AC Power plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings





- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ) . Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
 - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
 - Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "on".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground (\perp), or hot ground (\rightarrow), depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the

Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).

- Where necessary, measure the waveforms and voltages with () and without () aerial signal. Measure the voltages in the power supply section both in normal operation () and in stand-by () . These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.
- Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the "double-D symbol", are trademarks of Dolby Laboratories.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads ($\mu = \times 10^{-6}$), nano-farads ($n = \times 10^{-9}$), or pico-farads ($p = \times 10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 Rework on BGA (Ball Grid Array) ICs

General

Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

Device Removal

As is the case with any component that, is being removed, it is essential when removing an (LF)BGA, that the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the risk of warping the PWB. To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area Preparation

When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA. Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent.

After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA.

Note: Do not apply solder paste, as this has been shown to result in problems during re-soldering.

Device Replacement

The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

More Information

For more information on how to handle BGA devices, visit this URL: www.atyourservice.ce.philips.com (needs subscription, not available for all regions). After login, select "Magazine", then go to "Repair downloads". Here you will find Information on how to deal with BGA-ICs.

2.3.4 Lead-free Solder

Philips CE is producing lead-free sets (PBF) from 1.1.2005 onwards.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 5 and 6 refer to the production year, digits 7 and 8 refer to production week (in example below it is 1991 week 18).



Figure 2-1 Serial number example

Regardless of the special lead-free logo (which is not always indicated), one must treat all sets from this date onwards according to the rules as described below.

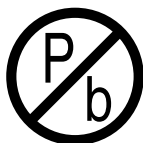


Figure 2-2 Lead-free logo

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
 - To reach a solder-tip temperature of at least 400°C.
 - To stabilise the adjusted temperature at the solder-tip.
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilised at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch "off" unused equipment or reduce heat.
- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly to **avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.

- Use only original spare-parts listed in the Service-Manuals. Not listed standard material (commodities) has to be purchased at external companies.
- Special information for lead-free BGA ICs: these ICs will be delivered in so-called "dry-packaging" to protect the IC against moisture. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets "wet" inside and during the heating time the structure of the IC will be destroyed due to high (steam-) pressure inside the body. If the packaging was opened before usage, the IC has to be heated up for some hours (around 90°C) for drying (think of ESD-protection!).
Do not re-use BGAs at all!
- For sets produced before 1.1.2005, containing leaded soldering tin and components, all needed spare parts will be available till the end of the service period. For the repair of such sets nothing changes.

In case of doubt whether the board is lead-free or not (or with mixed technologies), you can use the following method:

- Always use the highest temperature to solder, when using SAC305 (see also instructions below).
- De-solder thoroughly (clean solder joints to avoid mix of two alloys).

Caution: For BGA-ICs, you **must** use the correct temperature-profile, which is coupled to the 12NC. For an overview of these profiles, visit the website www.atyourservice.ce.philips.com (needs subscription, but is not available for all regions) You will find this and more technical information within the "Magazine", chapter "Repair downloads". For additional questions please contact your local repair help desk.

2.3.5 Alternative BOM identification

In September 2003, Philips CE introduced a change in the way the serial number (or production number, see Figure 2-1) is composed. From this date on, the **third digit** in the serial number (example: AG2B0335000001) indicates the number of the alternative BOM (Bill of Materials used for producing the specific model of TV set). It is possible that the same TV model on the market is produced with e.g. two different types of displays, coming from two different O.E.M.s. By looking at the third digit of the serial number, the service technician can see if there is more than one type of B.O.M. used in the production of the TV set he is working with. He can then consult the At Your Service Web site, where he can type in the Commercial Type Version Number of the TV set (e.g. 28PW9515/12), after which a screen will appear that gives information about the number of alternative B.O.M.s used. If the third digit of the serial number contains the number 1 (example: AG1B0335000001), then there is only one B.O.M. version of the TV set on the market. If the third digit is a 2 (example: AG2B0335000001), then there are two different B.O.M.s. **Information about this is important for ordering the correct spare parts!** For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26 = 35 different B.O.M.s can be indicated by the third digit of the serial number.

2.3.6 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages.** While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:

<http://www.philips.com/support>

<http://www.p4c.philips.com>

4. Mechanical Instructions

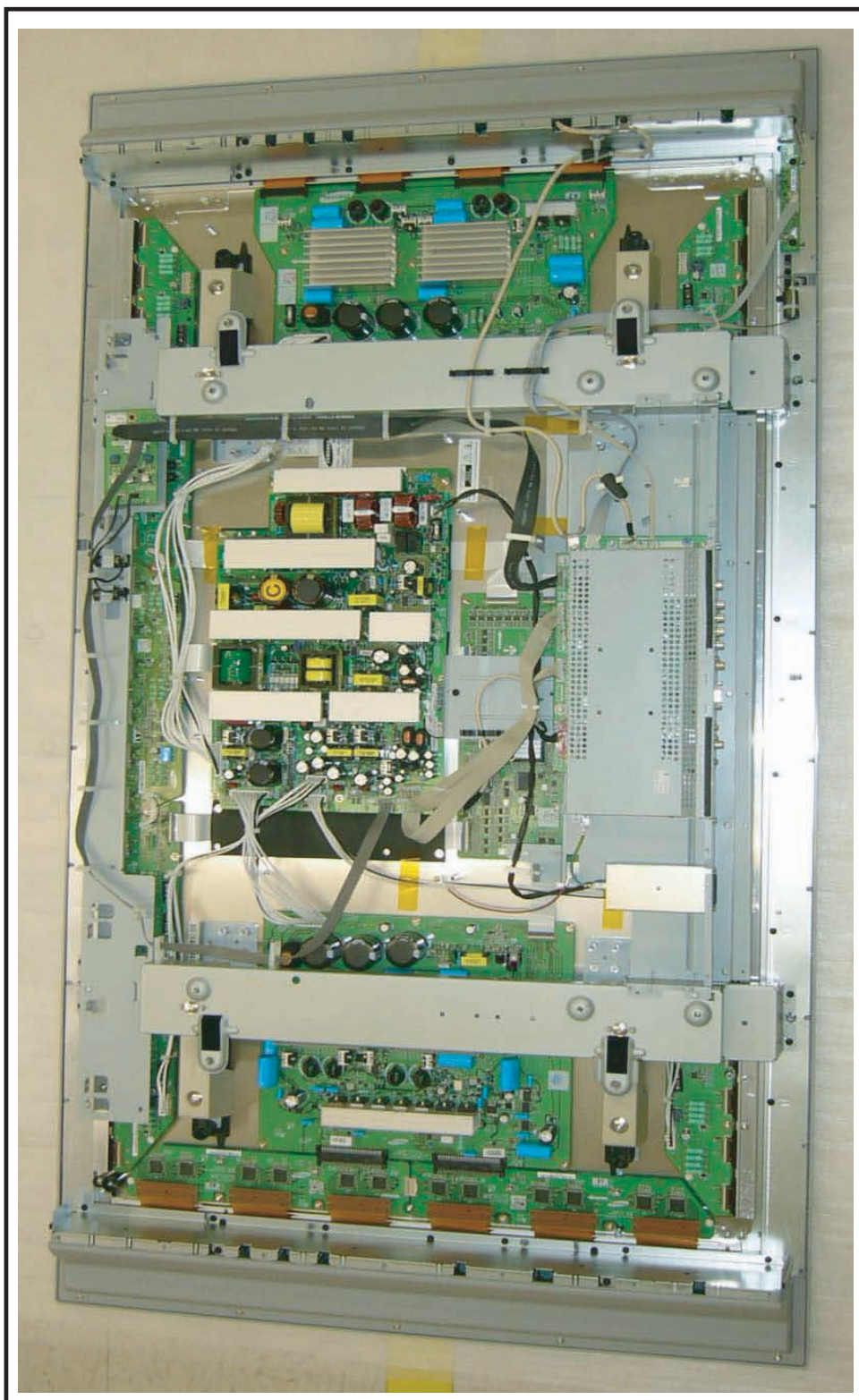
Index of this chapter:

- 4.1 Cable dressing
- 4.2 Service Position
- 4.3 Assy/Panel Removal
- 4.4 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

4.1 Cable dressing



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Figure 4-1 Cable dressing

4.2 Service Position

First, put the TV set in its service position. Therefore, place it upside down on a table top (use a protection sheet or foam bars).

4.2.1 The Foam Bars

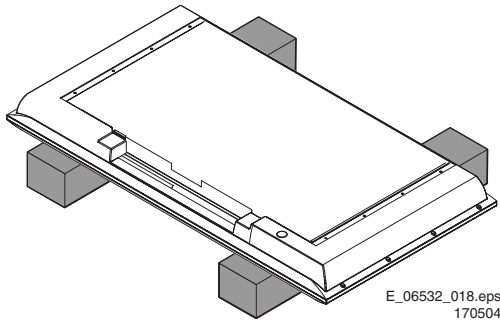


Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580) can be used for all types and sizes of Flat TVs. By laying the plasma TV flat on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By first placing a mirror flat on the table under the TV you can easily see if something is happening on the screen.

4.3 Assy/Panel Removal

4.3.1 Rear Cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Remove the screws that secure the rear cover.
2. Lift the rear cover from the cabinet cautiously. Make sure that wires and other internal components are not damaged during cover removal.

4.3.2 Side I/O Panel

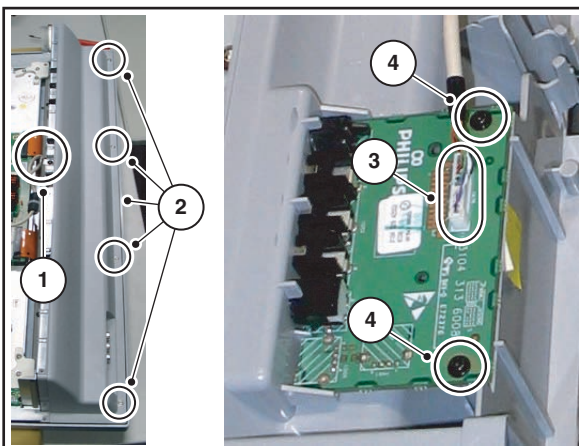


Figure 4-3 Side I/O panel

1. Remove the rear panel.
2. Remove the screw from the cable clip [1].
3. Remove the screws [2] from the loudspeaker cabinet.
4. Lift the loudspeaker cabinet from the frame.
5. Disconnect the cable [3] from the panel.

6. Remove the fixation screws [4], and slide the panel out of its bracket.

4.3.3 LED Panel

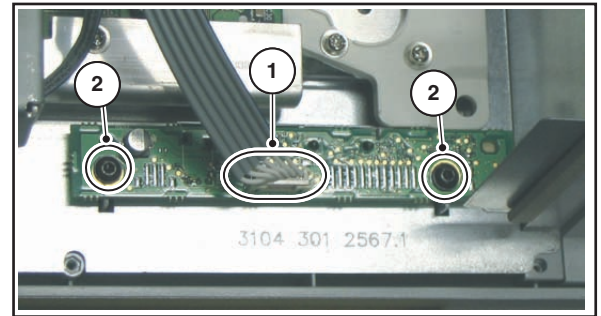


Figure 4-4 LED panel

1. Remove the rear panel.
2. Disconnect the cable [1] from the panel.
3. Remove the fixation screws [2].
4. Remove the panel.

4.3.4 Keyboard Control Panel

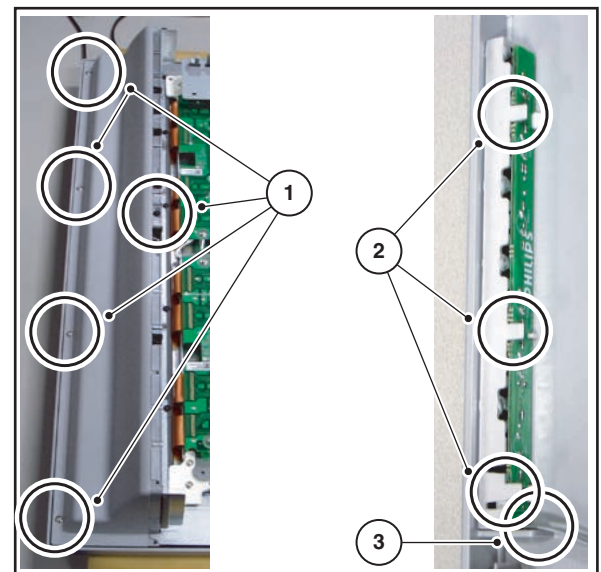


Figure 4-5 Keyboard control panel

1. Remove the rear panel.
2. Remove the screws [1] from the loudspeaker cabinet.
3. Lift the loudspeaker cabinet from the frame.
4. Release the three fixation clamps [2] and pull the panel out of the bracket.
5. Disconnect the cable [3] from the panel.

4.3.5 Small Signal Board

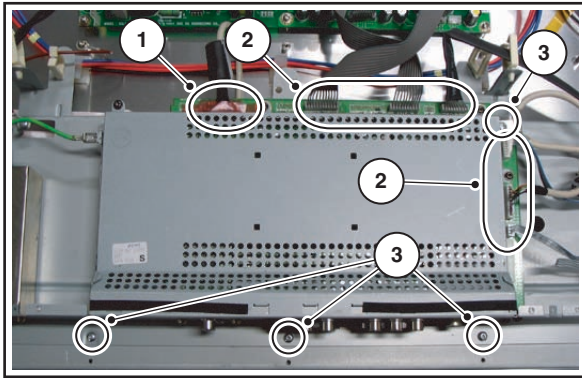
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Figure 4-6 SSB connectors

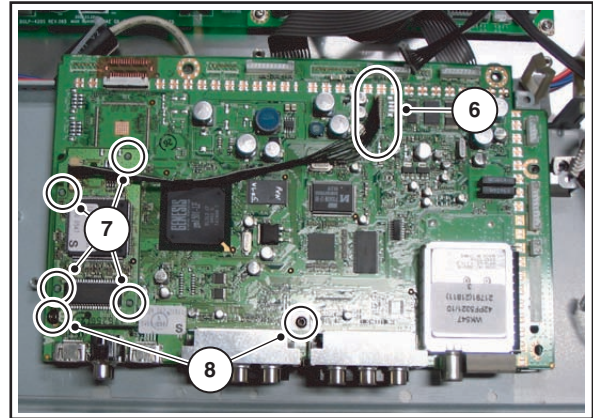
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Figure 4-9 SSB panel

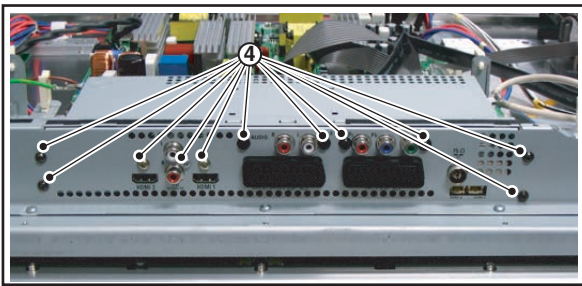
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Figure 4-7 Connector screws (picture taken from EU model)

1. Very **cautiously** disconnect the LVDS cable [1] from the panel (see Figure "SSB connectors"). Notice that this connector is very fragile.
2. Disconnect the other cables [2] from the panel.
3. Remove the fixation screws [3].
4. Remove the fixation screws [4] from the connector plate (see Figure "Connector screws").
5. Slide the SSB module a few centimetres away from the connector plate (see Figure "SSB shield").
6. Remove the fixation screws [5] and lift the shield from the SSB module.
7. Disconnect connector [6] (see Figure "SSB panel").
8. Unlock the catches [7] and lift the OTC TXT panel from the SSB panel.
9. Remove the fixation screws [8].
10. Remove the SSB panel.

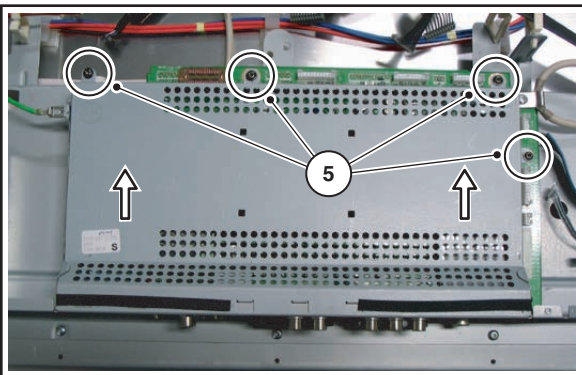
G_16240_017.eps
250706

Figure 4-8 SSB shield

4.3.6 Audio Amplifier Panel

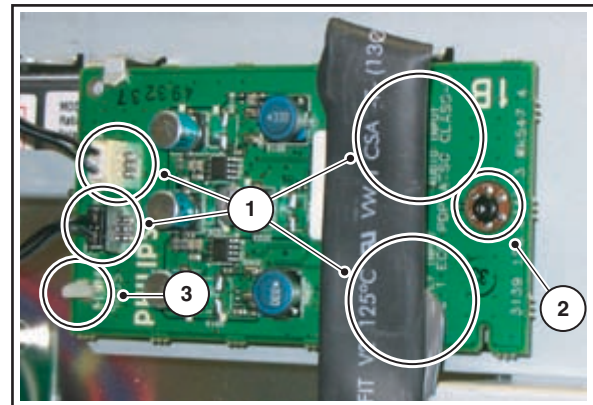
G_16240_019.eps
160206

Figure 4-10 Audio amplifier panel

1. Disconnect all cables [1] from the panel.
2. Remove the fixation screws [2] from the panel.
3. Remove the panel.

4.3.7 Plasma Panel

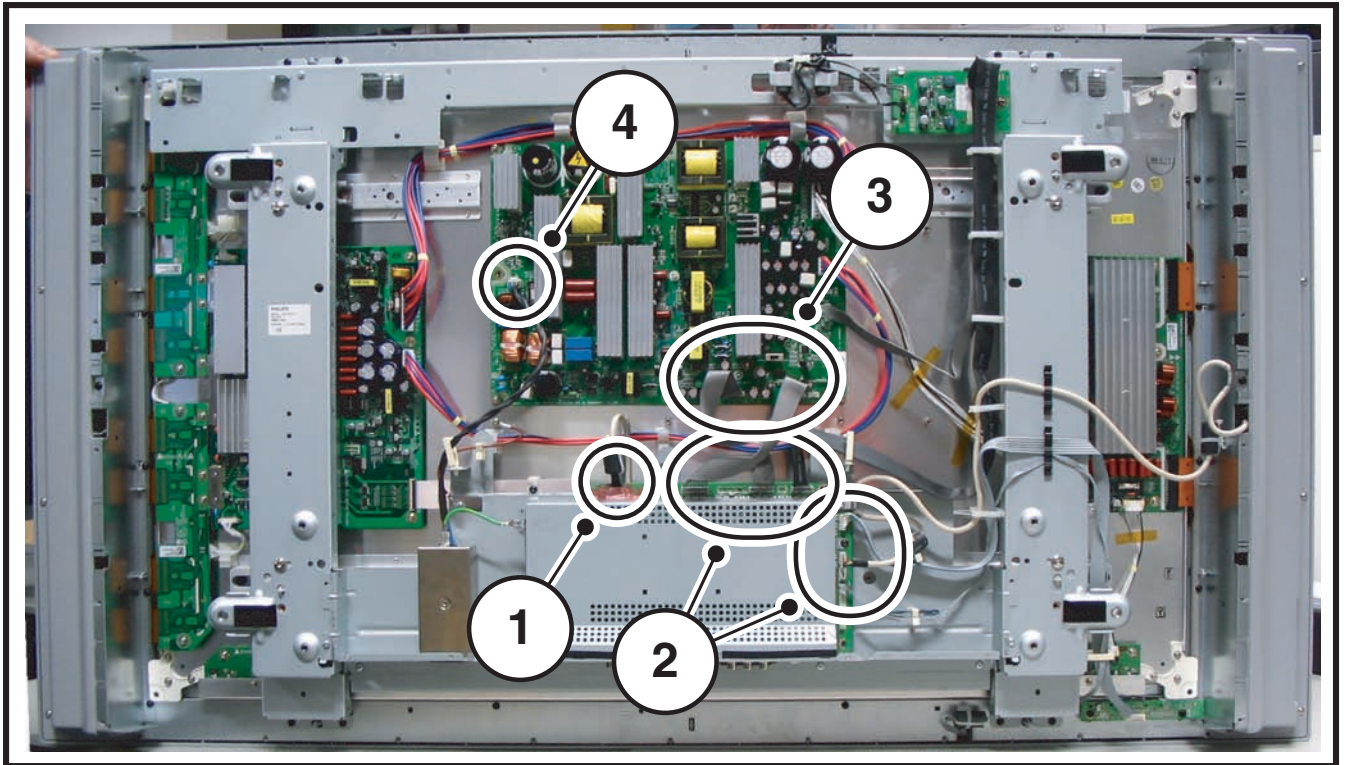
G_16240_020.eps
160206

Figure 4-11 Plasma panel removal (1/3)

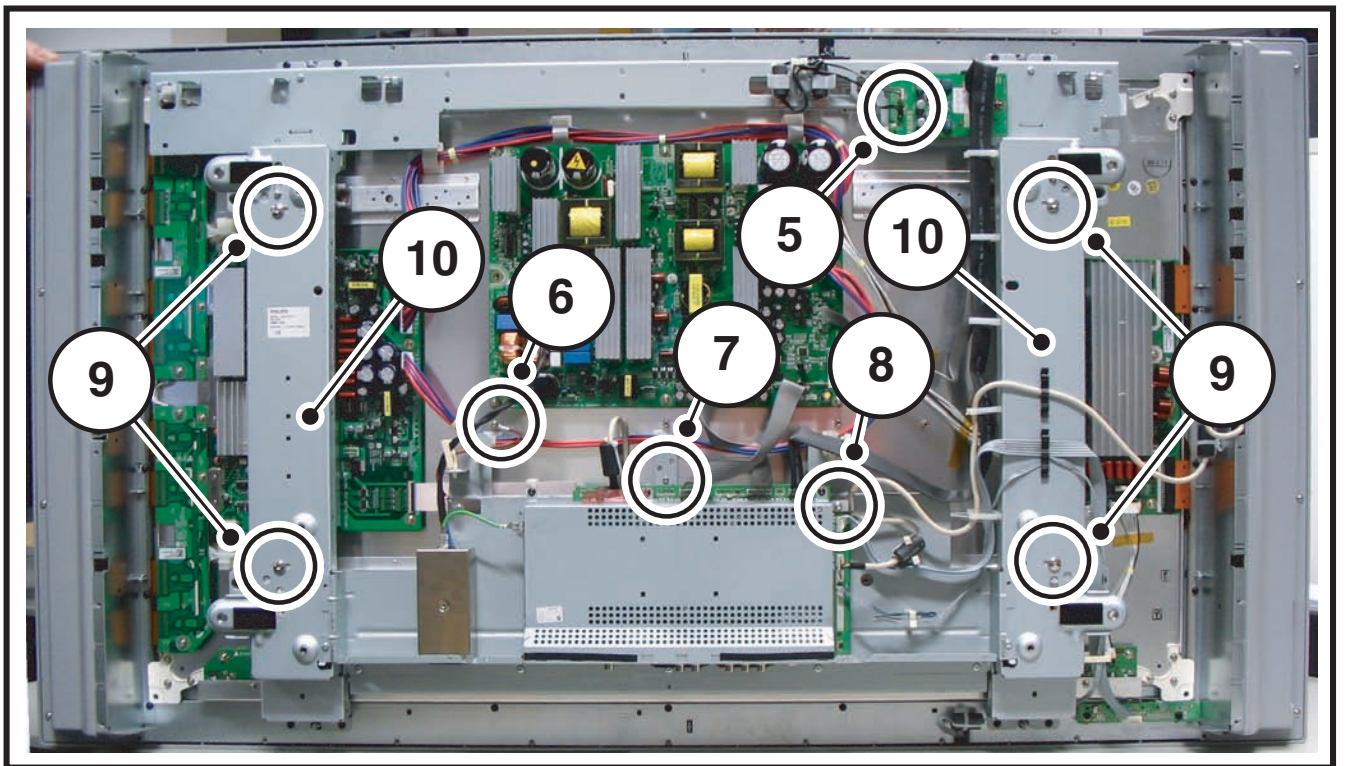
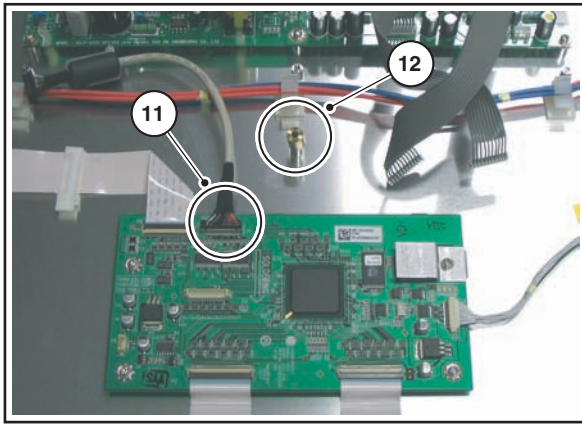
G_16240_021.eps
170206

Figure 4-12 Plasma panel removal (2/3)



G_16240_022.eps
160206

Figure 4-13 Plasma panel removal (3/3)

To remove the Plasma-panel, carry out the following steps:

1. Remove the rear cover from the set.
2. **Cautiously** unplug the LVDS connector [1] from the SSB panel (see Figure "LVDS connector").
Be careful, as this is a very fragile connector/cable!
3. Unplug the other connectors [2] from the SSB panel.
4. Unplug the connectors 1M03 and 1M46 [3] from the Power Supply board.
5. Unplug the power connector CN1305 [4] from the Power Supply board.
6. Unplug the connectors [5] from the Audio Panel.
7. Loosen the fixation screw [6] from the earth tab on the display.
8. Loosen the fixation screw [7] just above the SSB panel.
9. Loosen screw [8] with the cable clamp.
10. Release all disconnected cables from the (mostly plastic) guidances on the frame.
11. Loosen screws [9].
12. Lift the metal frame [10] (together with the SSB) from the plasma panel.
13. **Cautiously** unplug the LVDS connector [11] from the Logic Board of the Plasma panel (see Figure "Logic Board").
Be careful, as this is a very fragile connector/cable!
14. Remove the bronze spacer [12] from the stud on the plasma panel.
15. Now you can lift the Plasma display from its plastic frame.
16. If the plastic frame is damaged, replace it by a new frame, after removing the loudspeakers, the Side I/O panel, the Side Control panel, and the LED panel.

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure "Cable dressing".
Be careful with the fragile LVDS cable.

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

- 5.1 Test Points
- 5.2 Service Modes
- 5.3 Problems and Solving Tips Related to CSM
- 5.4 Service Tools
- 5.5 Error Codes
- 5.6 The Blinking LED Procedure
- 5.7 Fault Finding and Repair Tips

5.1 Test Points

This chassis is equipped with test points. In the schematics, test points are indicated with a rectangle box around Fxxx or Ixxx, in the layouts with a half-moon.

Perform measurements under the following conditions:

- Television set in Service Default Mode.
- Video input: Colour bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

5.2 Service Modes

Service Default mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between the call centre and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the possibilities of structured troubleshooting, error code reading, and software version read-out for all chassis.

Minimum requirements for ComPair: a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph "ComPair").

5.2.1 Service Default Mode (SDM)

Purpose

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.
- To inspect the error buffer.
- To check the life timer.

Specifications

Table 5-1 SDM default settings

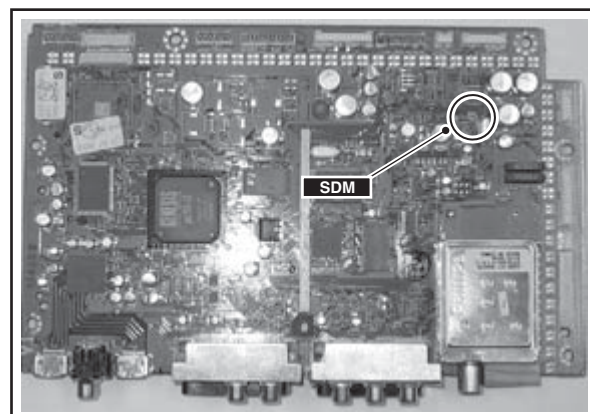
Region	Freq. (MHz)	Default system
Europe, AP-PAL/Multi	475.25	PAL B/G
NAFTA, AP-NTSC, LATAM	61.25 (ch. 3)	NTSC M

- All picture settings at 50% (brightness, colour contrast, hue).
- Bass, treble, and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
 - Timer / Sleep timer.
 - Child / parental lock.
 - Blue mute.
 - Hotel / hospital mode.
 - Auto shut off (when no "IDENT" video signal is received for 15 minutes).
 - Skipping of non-favourite presets / channels.
 - Auto-storage of personal presets.
 - Auto user menu time-out.
 - Auto Volume Levelling (AVL).

How to Enter

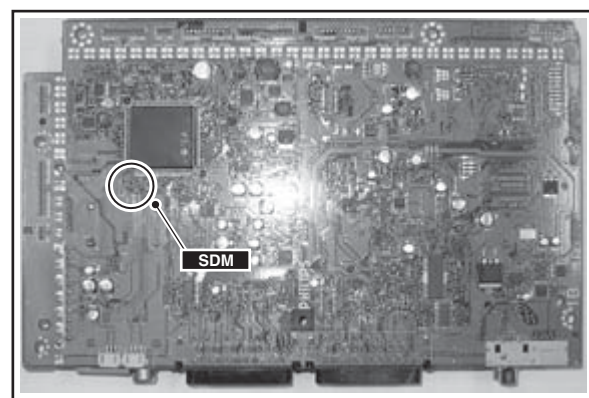
To enter SDM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
 - Short one of the "Service" jumpers (component or solder side) on the TV board during cold start and apply mains (see Figures "Service jumper"). Then press the mains button (remove the short after start-up).
- Caution:** Entering SDM by shorting "Service" jumpers will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.



G_16210_087.eps
200106

Figure 5-1 Service jumper (component side)



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200106

Figure 5-2 Service jumper (solder side)

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.

```

00035  HSD21E1 1.00/S21LXN 1.00  SDM
ERR 0 0 0 0 0
OP 152 167 015 081 252 127 019

```

G_16210_089.eps
200106

Figure 5-3 SDM menu (example)

How to Navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse; or press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD button to switch to SAM (do not allow the display to time out between entries while keying the sequence).

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set. If you turn the television set off by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

Specifications

- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

How to Enter

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD/STATUS/INFO(I+) button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.

```

00035  HSD21E1 1.00/S21LXN 1.00  SAM
ERR 0 0 0 0 0

OP 152 167 015 081 252 127 019

. Clear                      Clear ? ►
. Options                    ►
. Tuner                      ►
. White Tone                 ►
. Audio                      ►
. NVM Editor                 ►
. SC NVM Editor              ►
. Test Pattern               ►
. ComPair Mode               ► On

```

G_16210_090.eps
110706

Figure 5-4 SAM menu (example)

Menu Explanation

- LLLLL.** This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
- AAAAABC X.YY.** This is the software identification of the main microprocessor:
 - A**= the project name.
 - B**= the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
 - C**= the language cluster number.
 - X**= the main software version number (updated with a major change that is incompatible with previous versions).
 - Y**= the sub software version number (updated with a minor change that is compatible with previous versions).
- EEEE F.GG.** This is the software identification of the Scaler:
 - EEEE**= the scaler sw cluster
 - F**= the main sw version no.
 - GG**= the sub-version no.
- SAM.** Indication of the Service Alignment Mode.
- Error Buffer.** Shows all errors detected since the last time the buffer was erased. Five errors possible.
- Option Bytes.** Used to read-out the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
- Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
- Options.** Used to set the option bits. See "Options" in the Alignments section for a detailed description.
- Tuner.** Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
- White Tone.** Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
- Audio.** No audio alignment is necessary for this television set.
- NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.
- SC NVM Editor.** Can be used to edit Scaler NVM.
- Test Pattern.** This will trigger the scaler to generate a checkerboard test pattern. Only applicable to PDP sets.
- ComPair.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair.

Caution: When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

How to Navigate

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be indicated. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
 - Activate the selected menu item.
 - Change the value of the selected menu item.
 - Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU button.
- When you press the MENU key in while in a submenu, you will return to the previous menu.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SAM to SDM and reverse; or press the following key sequence on the remote control transmitter: "062596" directly followed by the MENU button to switch to SDM (do not allow the display to time out between entries while keying the sequence).

How to Store SAM Settings and Exit the SAM Menu

To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set. This also exits the SAM menu.

Caution: If you turn the television set "off" by removing the mains (i.e., unplugging the television) without using the POWER button, the television set will remain in SAM when mains is re-applied, and the error buffer is not cleared.

5.2.3 Customer Service Mode (CSM)

Purpose

The Customer Service Mode shows error codes and information on the TV's operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.

The CSM is a read-only mode; therefore, modifications are not possible in this mode.

How to Enter

To enter CSM, press the following key sequence on the remote control transmitter: "123654" (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:

```
1 00035 HSD21E1 1.00/S21LXN 1.00 CSM
2 CODES 0 0 0 0 0
3 OP 152 167 015 081 252 127 019
4 26PF5321/10
5 AAAAAA/B.CC
6 NOT TUNED
7 PAL
8 STEREO
9 CO 50 CL 50 BR 50
0 AVL Off
```

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200106

Figure 5-5 CSM menu (example)

Menu Explanation

1. Indication of the decimal value of the operation hours counter, Main/Scaler software version (see "Service Alignment Mode" for an explanation), and the service mode (CSM = Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. **aaaaaa / b.ccc** Firmware identification of the Pacific 3 and the OTC:
 - **aaaaaa** = the firmware version of the Pacific 3 (Pixel+)
 - **b.ccc** = the firmware version of the OTC (for the 1000 page TXT decoder).
6. Indicates the television is receiving an "IDENT" signal on the selected source. If no "IDENT" signal is detected, the display will read "NOT TUNED".
7. Displays the detected Colour system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

How to Exit

To exit CSM, use one of the following methods:

- Press the MENU button twice, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5.3 Problems and Solving Tips Related to CSM

5.3.1 Picture Problems

Note: The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

Picture too Dark or too Bright

If:

- The picture improves when you press the SMART PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

White Line around Picture Elements and Text

If:

The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select SHARPNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

Snowy Picture

Check CSM line 6. If this line reads "Not Tuned", check the following:

- Antenna not connected. Connect the antenna.
- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/repair the tuner if necessary.

Black and White Picture

If:

- The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select COLOUR.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.

8. Press the MENU RIGHT key to store the new value.

9. Press the MENU key to exit the PERSONAL picture mode.

5.4 Service Tools

5.4.1 ComPair

Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics (on I²C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I²C commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the Force/SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial (or RS-232) cable.

For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector(s).

The ComPair fault finding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- Automatically (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I²C/UART level. ComPair can access the I²C/UART bus of the television. ComPair can send and receive I²C/UART commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I²C/UART buses of the TV-set.
- Manually (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the fault finding tree by asking you questions (*e.g. Does the screen give a picture? Click on the correct answer: YES / NO*) and showing you examples (*e.g. Measure test-point 17 and click on the correct oscillogram you see on the oscilloscope*). You can answer by clicking on a link (*e.g. text or a waveform picture*) that will bring you to the next step in the fault finding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

How to Connect

This is described in the chassis fault finding database in ComPair.

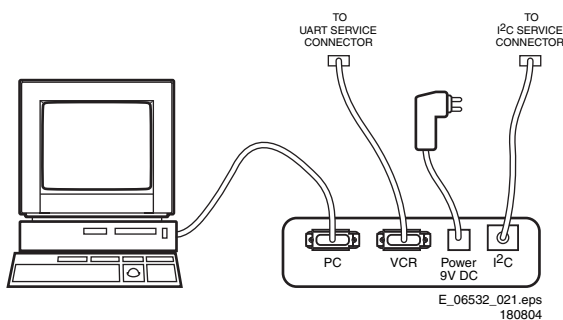


Figure 5-6 ComPair interface connection

How to Order

- ComPair order codes (EU/AP/LATAM):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excl. transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60070 (year 2002), 3122 785 60110 (year 2003 onwards).
- SearchMan32 CD (update): 3122 785 60080 (year 2002), 3122 785 60120 (year 2003), 3122 785 60130 (year 2004).
- ComPair firmware upgrade IC: 3122 785 90510.
- Transformer (non-UK): 4822 727 21632.
- Transformer (UK): 4822 727 21633.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk.

5.4.2 LVDS Tool**Introduction**

This service tool (also called "ComPair Assistant 1") may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) or the display of a Flat TV is defective.

Furthermore it is possible to program EPLDs with this tool (Byte blaster). Read the user manual for an explanation of this feature.

Since 2004, the LVDS output connectors in our Flat TV models are standardised (with some exceptions). With the two delivered LVDS interface cables (31p and 20p) you can cover most chassis (in special cases, an extra cable will be offered).

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (> 1280x960). Below this resolution, or when a DVI monitor is used, the displayed picture will be full size.

Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

How to Connect

Connections are explained in the user manual, which is packed with the tool.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05). For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

How to Order

- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- LVDS tool Service Manual: 3122 785 00810.
- LVDS cable 31p/FI -> 31p/FI (for JL2.1 chassis): 3122 785 90861.
- LVDS cable 30p/DF -> 31p/FI (for LC4.3 chassis): 3122 785 90821.
- LVDS cable 41p/FI -> 31p/FI (dual -> single LVDS): 3122 785 90831.
- LVDS cable 20p/DF -> 20p/DF (standard with tool): 3122 785 90731.
- LVDS cable 31p/FI -> 31p/FI (standard with tool): 3122 785 90662.
- LVDS cable 20p/DF -> 20p/DF (for LC4.1 chassis): 3122 785 90851.

5.5 Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

5.5.1 How to Read the Error Buffer

You can read the error buffer in 3 ways:

- On screen via the SAM (if you have a picture).
Examples:
 - ERROR: 0 0 0 0 0 : No errors detected
 - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
 - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See "The Blinking LED Procedure".
- Via ComPair.

5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By using the CLEAR command in the SAM menu:
 - To enter SAM, press the following key sequence on the remote control transmitter: **"062596"** directly followed by the OSD/i+ button (do not allow the display to time out between entries while keying the sequence).
 - Make sure the menu item CLEAR is selected. Use the MENU UP/DOWN buttons, if necessary.
 - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the "CLEAR" line will change from "CLEAR?" to "CLEARED"
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

5.5.3 Error Codes

In case of non-intermittent faults, write down the errors present in the error buffer and clear the error buffer before you begin the repair. This ensures that old error codes are no longer present.

If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error and not the actual cause of the problem (for example, a fault in the protection detection circuitry can also lead to a protection).

Table 5-2 Error code overview

Error	Error Description	Check Item	Diagram
0	No Error		
1	Mis-match of TV (Hercules) SW and Scaler SW	Software versions	N.A.
2	+12V from PSU error	PSU	A
3	Plasma I ² C error (only for plasma sets)	N.A.	N.A.
4	I ² C error while communicating with the Genesis Scaler	7801	B7 + B8
5	+5V protection	7752	B6
6	General I ² C error; communication between ADC, analogue tuner, and/or Columbus I ² C failed	1102, 7L01, 7M00	B1 + B18 + B19
7	I ² C error while communicating with ADC	7L01	B18
8	I ² C error while communicating with the Scaler EEPROM	7C01	B11
9	I ² C error while communicating with the Hercules EEPROM (NVM for TV). Remark: when the Hercules EEPROM is defective, the Hercules should operate with its default values.	7207	B2
10	I ² C error while communicating with the PLL tuner	1102	B1
11	I ² C error while communicating with the 3D combfilter IC-7M00 (Columbus)	7M00	B19
12	I ² C error while communicating with iBoard uP (only iTV sets)	N.A.	N.A.
13	I ² C error while communicating with the HDMI decoder IC-7D03 (only for NAFTA and AP)	N.A.	N.A.
14	Read-write error with the Scaler SDRAM	7B01	B10
15	I ² C error while communicating with the OTC	7001	T
16	I ² C error while communicating with EPLD or Pacific III	7N00	B20
17	I ² C error while communicating with the Digital Module (only for digital sets)	N.A.	N.A.

5.6 The Blinking LED Procedure

Using this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful when there is no picture.

- When the SDM is entered, the front LED will blink the contents of the error-buffer:
- The LED blinks with as many pulses as the error code number, followed by a time period of 1.5 seconds, in which the LED is off.
 - Then this sequence is repeated.

Any RC5 command terminates this sequence.

- Example** of error buffer: **12 9 6 0 0**
- After entering SDM, the following occurs:
- 1 long blink of 5 seconds to start the sequence,
 - 12 short blinks followed by a pause of 1.5 seconds,
 - 9 short blinks followed by a pause of 1.5 seconds,
 - 6 short blinks followed by a pause of 1.5 seconds,
 - 1 long blink of 1.5 seconds to finish the sequence,
 - The sequence starts again with 12 short blinks.

5.7 Fault Finding and Repair Tips

- Notes:**
- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
 - Before any fault finding actions, check if the correct options are set.

5.7.1 NVM Editor

In some cases, it can be handy if one directly can change the NVM contents. This can be done with the “NVM Editor” in SAM mode. With this option, single bytes can be changed.

- Caution:**
- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
 - **Do not change the Scaler NVM settings, as this will hamper the DVI / HDMI functionality of the TV set!**
 - Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 5-3 NVM editor overview

	Hex	Dec	Description
.ADR	0x000A	10	Existing value
.VAL	0x0000	0	New value
.Store	Store?		

5.7.2 Load Default NVM Values

In case a blank NVM is placed or when the NVM content is corrupted, default values can be downloaded into the NVM. (For empty NVM replacement, short the SDM with a jumper and apply the mains voltage. Remember to remove the jumper after the reload is completed). After the default values are downloaded, it will be possible to start up and to start aligning the TV set. This is no longer initiated automatically; to initiate the download the following action has to be performed:

1. Switch "off" the TV set by disconnecting the AC Power plug.
2. Short circuit an SDM jumper (keep short-circuited).
3. Press P+ or Ch+ on the local keyboard (and keep it pressed).
4. Switch on the TV set via the AC Power plug.
5. Keep pressing the P+/Ch+ button until the set has started up and the SDM is shown.

Alternative method:

1. Go to SAM.
2. Select NVM Editor (not SC NVM Editor).
3. Select ADR (address) to 1 (dec).
4. Change the VAL (value) to 170 (dec).
5. Store the value.
6. Disconnect the mains plug and wait for a few seconds.
7. Reconnect the mains plug and wait until the set goes into its standby mode (red LED lights up).
8. Restart the set.

5.7.3 Flash New Scaler Software

When you need to flash new scaler software, follow the instructions in ComPair. Make sure you put the set in one of the Service Modes, SDM/SAM/CSM, before you start flashing. This reduces the risk of the set hanging during the flashing procedure.

5.7.4 Tuner and IF

No Picture in RF Mode, but there is a Noise Raster

1. Check whether picture is present in AV. If not, go to Video processing troubleshooting section.
2. If present, check if the Option settings are correct.
3. Check if all the supply voltages are present (3.3/5/8/12/33 V).
4. Check if the I²C lines are working correctly (3.3 V).
5. Manually store a known channel and check if there is IF output at Tuner pin 11.
6. Check the tuning DC voltage at pin 2 of the Tuner. The DC voltage should vary according to the frequency/channel being chosen.
7. If the tuning voltage is OK, check the tuner output, pin 11.
8. If it has no output, the Tuner may have a defect. Change the Tuner.

Sound in Picture Problem for L' System (rolling horizontal lines) - for EU sets only

1. Check whether AGC L' in SAM mode is set to 0.
2. If yes, align the set to correct value.

Required System is not Selected Correctly

Check whether a Service jumper (#4204 & 4205, 0805 size) is present. If yes, remove it.

5.7.5 Video Processing

No Power

1. Check +12 V and 3V3 at position 1J02.
2. If no supply, first check the connector 1J02.
3. If the connector is correct, check the power supply board.

Power Supply is Correct, but no Green LED

1. Check if the connectors 1K00 are properly inserted.
2. If they are inserted correctly, check if the 3V3 is present.

No Picture Display (blank screen with correct sound output)

1. Check whether the user menu is visible.
2. If the user menu is OK, activate teletext mode.
3. If teletext is OK, the problem is in the ADC (B18) & Columbus 3D combfilter (B19), if present (depending on model, see also paragraph "Teletext Path" in chapter 9).
4. If the user menu is not visible, check if the LCD panel backlight is ON.
5. If the backlight is OFF, the problem is in the power supply board or LCD panel. Also check pin 12 (LAMP_ON_OFF) of 1J02. It should be HIGH during normal operation.

Note: For fault finding purposes, it is important to know the following: in Pixel Plus and Digital Crystal Clear models, which have an ADC (B18) and Columbus 3D combfilter (B19), the digital input of the scaler is used for the digital video path (Hercules output), whereas the analogue RGB input (analogue input of the scaler) is only used for teletext. This means that no mixed mode (video plus teletext simultaneously) is possible. If there is sound and teletext, but no video and user menu (blank screen), the digital path (Hercules - ADC - Columbus - Scaler) is faulty. If there is sound but no teletext, the back-end part (Scaler - LCD panel) is faulty.

No TV, but PC is Present

1. Check if Hsync_SDTV and Vsync_SDTV are present at pin 1 & pin13 of 7E03.
2. If they are present, check teletext output.
3. If there is no teletext output, the IC TDA150xx may be defect.

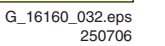
5.7.6 Power Supply

There are two types of Power Supply Units used in the various models of this chassis. Both Supply Units come with the PDP Panel and are a "Black Box" for Service. The 42" models are equipped with the SDI S42SD-YD09 v5 PDP Panel with Supply Unit. The 50" models are equipped with the SDI S50HW-YD01 w1 PDP Panel with Supply Unit. For fault finding issues, refer to the SDI PDP Repair Manual (order code 3122 785 16380).

Personal Notes:

Wiring Diagram

WIRING 42" & 50" SDI

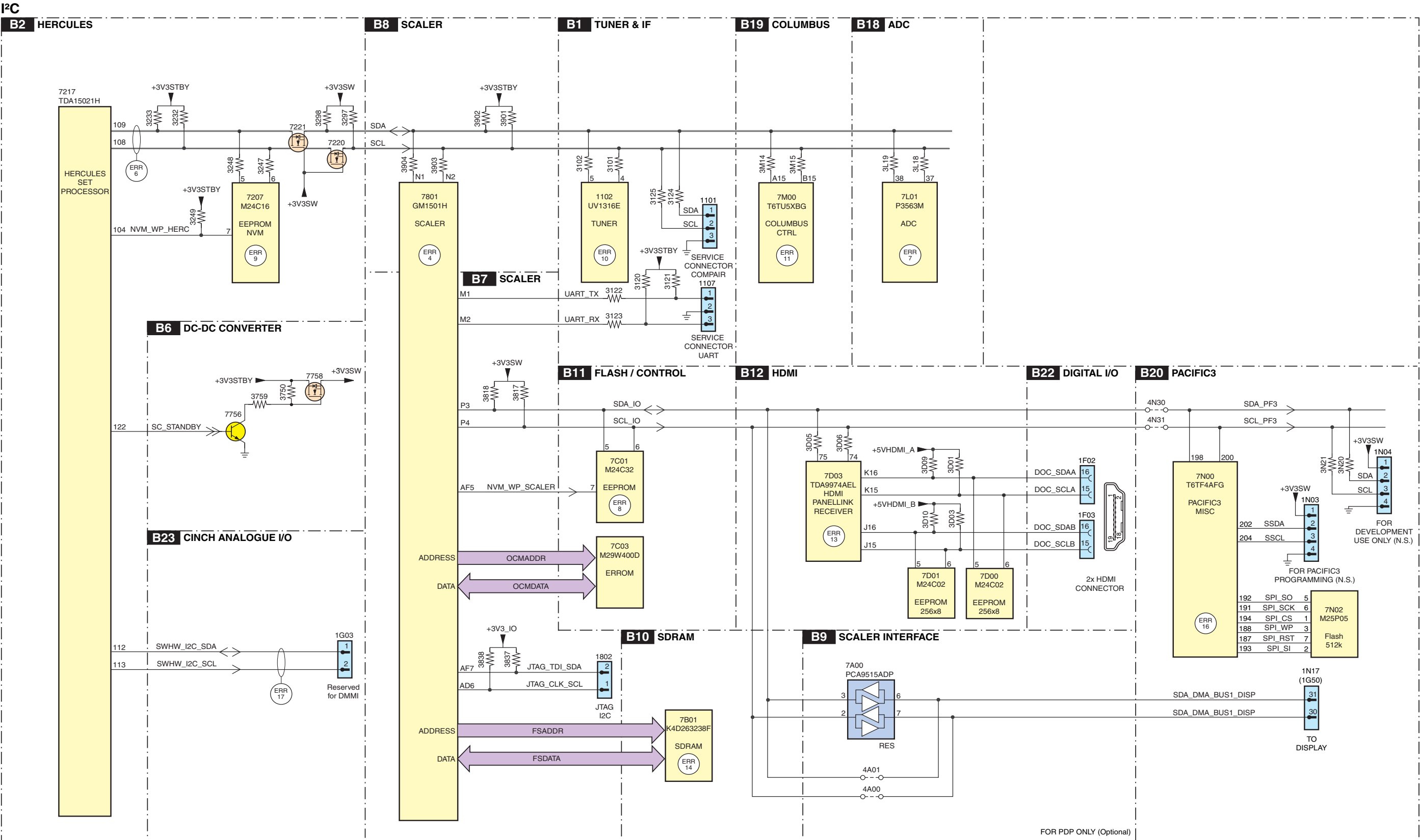


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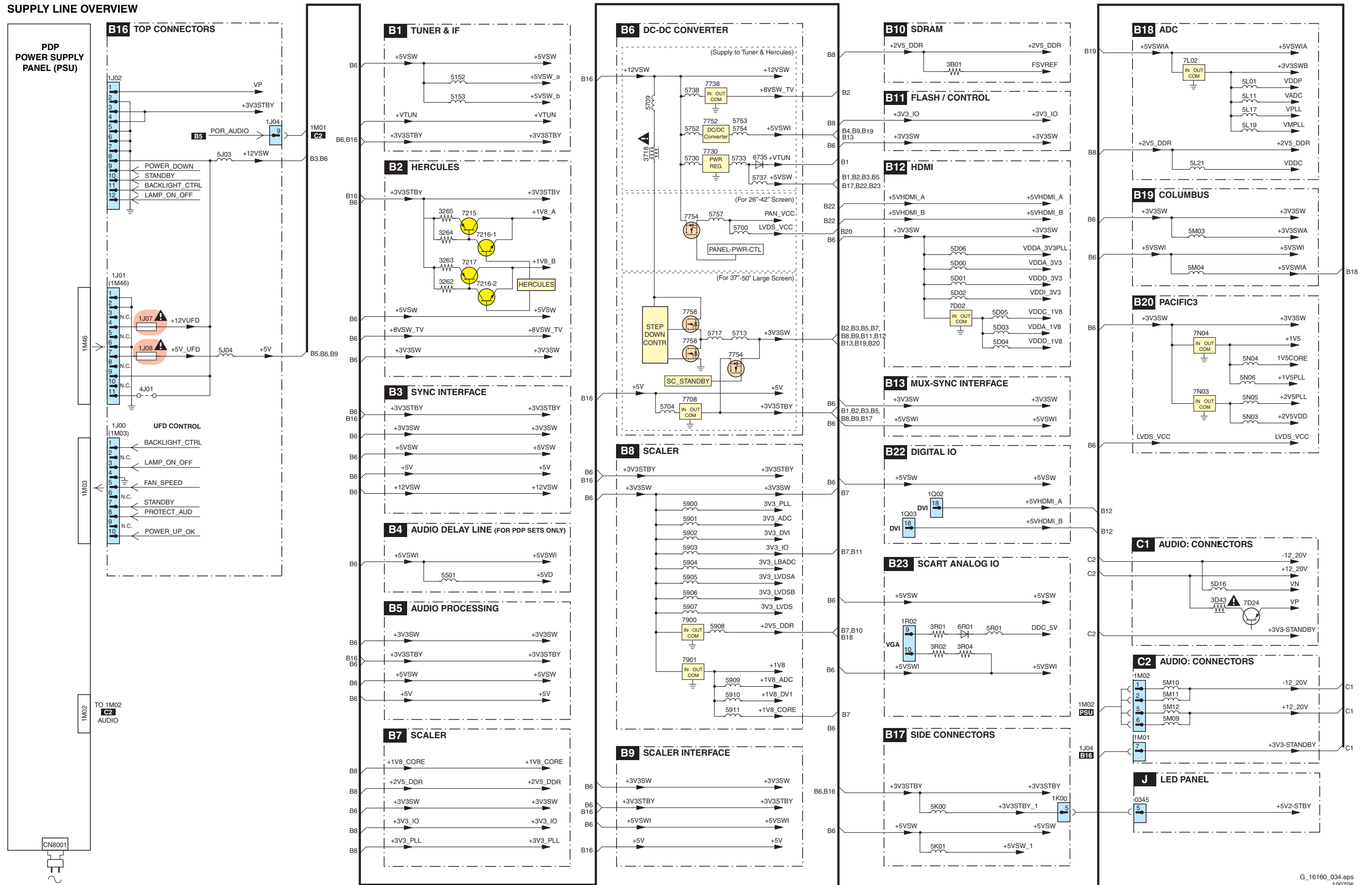
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040706

G_16160_007.eps
040706

I2C Overview

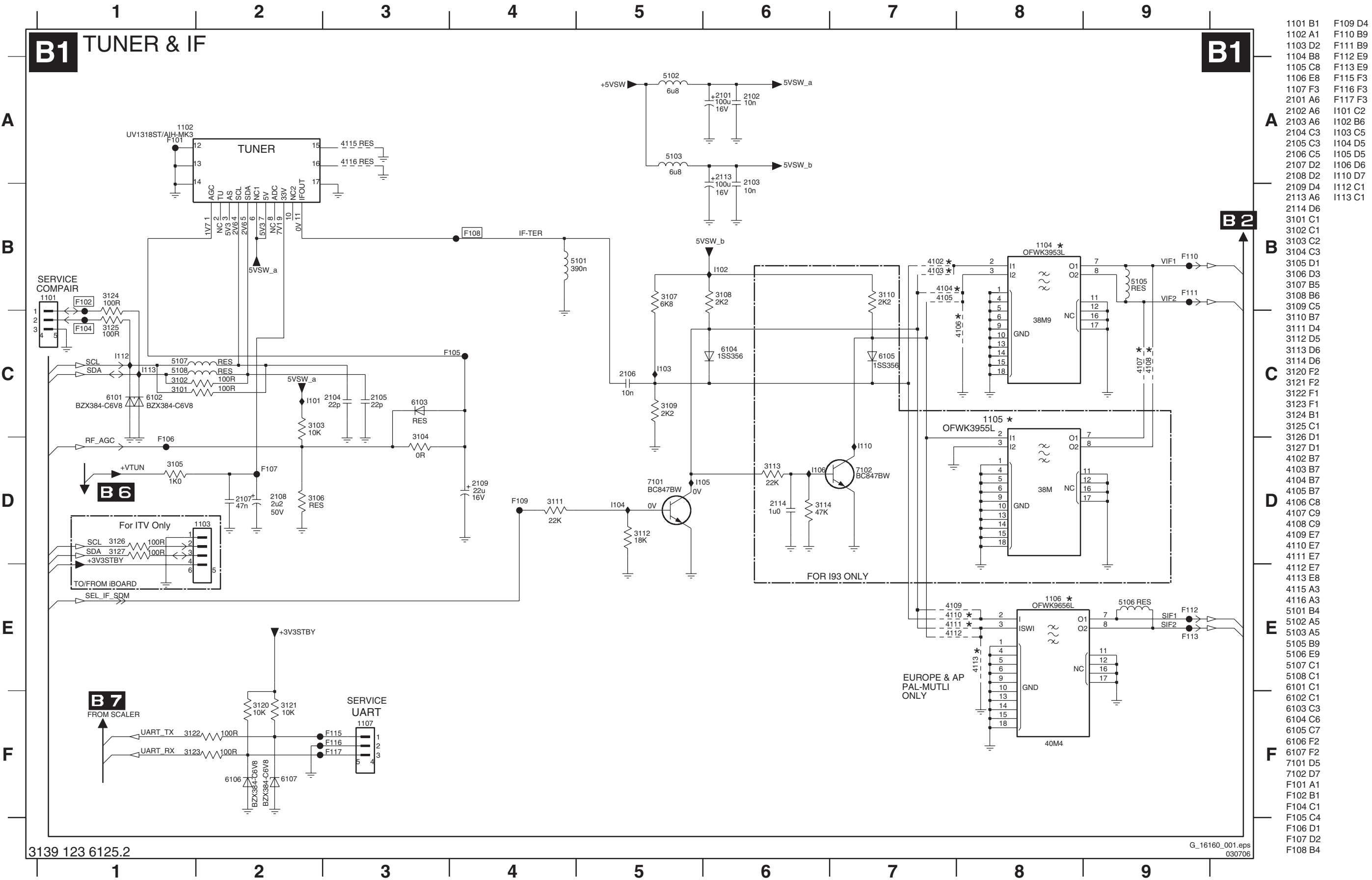


SUPPLY LINE OVERVIEW



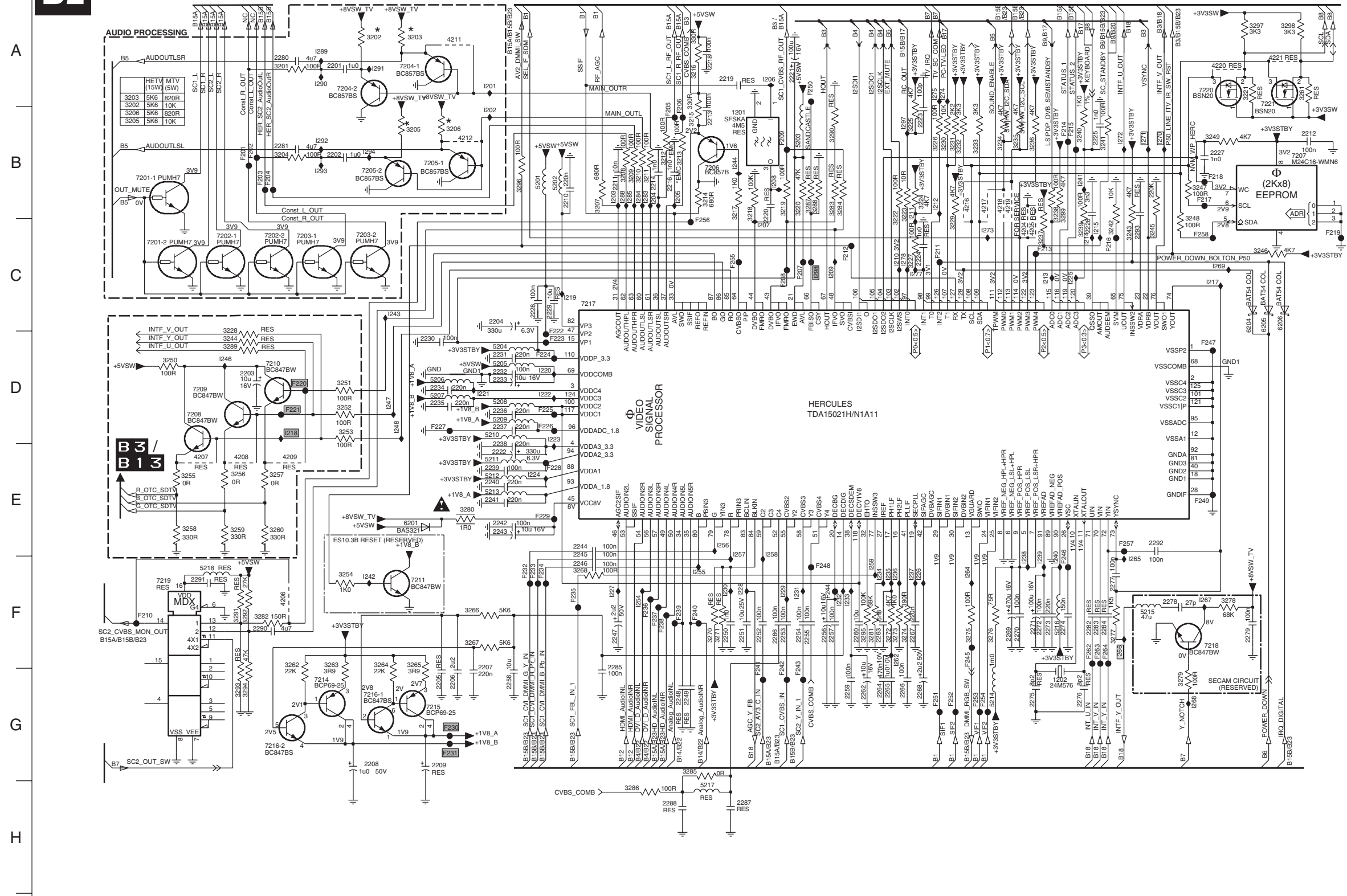
7. Circuit Diagrams and PWB Layouts

SSB: Tuner and IF



SSB: Hercules

B2 HERCULES



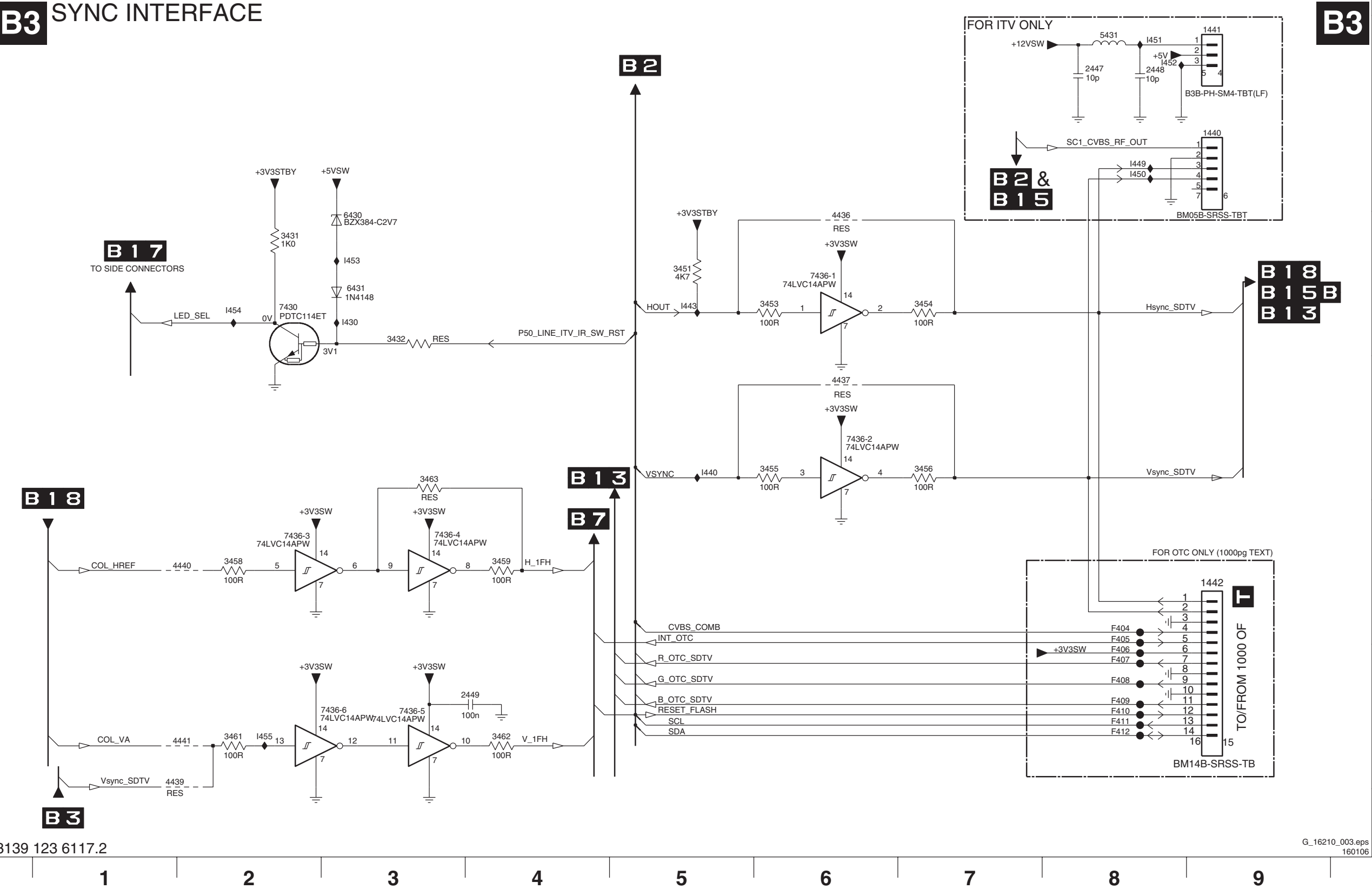
3139 123 6117.2

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160106

1201 B7	3211 B6	4221 A12	F254 G9
1202 G10	3212 B6	5201 B5	F255 C7
2201 A3	3213 B6	5202 B5	F256 B6
2202 B3	3214 B7	5203 B7	F257 E10
2203 D2	3215 B6	5204 D5	F258 C11
2204 C5	3216 A6	5205 D5	F262 F10
2205 G4	3217 B7	5206 D4	F263 F10
2206 G4	3218 B7	5207 D4	F264 F10
2207 F5	3219 B7	5208 D5	I201 A5
2208 G4	3220 B7	5209 D5	I202 B5
2209 G4	3221 A11	5210 D5	I203 B6
2210 B5	3222 B8	5211 E5	I204 B6
2211 B6	3223 B8	5212 E5	I205 B6
2212 B12	3224 B8	5213 E5	I206 A7
2213 B7	3225 B8	5214 G9	I207 C7
2214 B6	3226 B9	5215 F10	I208 B7
2216 B6	3227 C8	5216 F10	I209 C8
2218 A7	3228 D2	5217 H7	I210 C8
2219 A7	3229 C9	5218 F2	I211 B8
2220 B7	3230 B9	6201 E4	I212 B9
2221 A7	3231 B9	6204 C11	I213 C10
2222 E5	3232 B9	6205 C11	I214 C10
2223 B8	3233 B9	6206 C12	I215 C10
2224 C8	3234 B9	7201-1 B1	I217 C11
2225 B10	3235 B9	7201-2 C2	I218 D3
2226 C10	3236 B9	7202-1 C2	I219 C5
2227 B11	3237 C9	7202-2 C3	I220 D5
2228 C5	3238 B10	7203-1 C3	I221 D5
2229 C5	3239 C10	7203-2 C3	I222 D5
2230 D4	3240 B10	7204-1 A4	I223 D5
2231 D5	3241 B10	7204-2 A3	I224 E5
2232 D5	3242 C10	7205-1 B4	I225 C10
2233 D5	3243 C10	7205-2 B4	I226 F8
2234 D4	3244 D2	7206 B6	I227 F6
2235 D4	3245 C10	7207 B12	I228 F7
2236 D5	3246 C11	7208 D2	I229 F7
2237 D5	3247 B11	7209 D2	I230 F7
2238 E5	3248 C11	7210 D3	I231 F7
2239 E5	3249 B11	7211 F4	I232 F8
2240 E5	3250 D2	7214 G3	I233 F8
2241 E5	3251 D3	7215 G4	I234 F8
2242 E5	3252 D3	7216-1 G3	I235 F8
2243 E5	3253 D3	7216-2 G3	I236 F8
2244 E5	3254 F3	7217 C6	I237 F8
2245 E5	3255 E2	7218 F11	I238 F9
2246 F5	3256 E2	7219 F2	I239 F9
2247 F6	3257 F3	7220 A11	I240 F10
2248 G6	3258 E2	7221 A12	I241 B10
2249 G6	3259 E2	F201 B2	I242 F4
2250 F7	3260 C3	F202 B2	I243 C4
2251 F7	3261 A12	F203 B3	I244 B7
2252 F7	3262 F3	F204 B3	I246 D2
2253 F7	3263 F3	F205 B6	I247 D4
2254 F7	3264 F4	F206 B6	I248 D4
2255 F7	3265 F4	F207 C7	I254 F6
2256 F8	3266 F4	F208 C7	I255 F6
2257 F8	3267 F4	F209 B7	I256 E7
2258 G5	3268 F5	F210 F2	I257 E7
2259 G8	3270 F7	F211 C9	I258 E7
2260 F8	3271 F7	F212 C8	I259 F8
2262 G8	3272 F8	F213 C10	I262 F8
2263 F8	3273 F8	F214 B10	I264 F9
2264 G8	3274 F8	F215 B10	I265 F10
2265 G8	3275 F9	F216 C10	I266 F10
2266 G8	3276 F9	F217 B11	I267 F11
2267 F8	3277 F10	F218 B11	I268 G11
2268 G8	3278 F11	F219 C12	I269 C11
2269 F9	3279 G11	F220 D3	I270 B11
2270 F9	3280 E4	F221 D3	I271 B10
2271 F9	3281 F8	F222 D5	I272 B10
2272 F9	3282 F3	F223 D5	I273 C9
2273 F10	3283 B8	F224 D5	I274 A9
2274 F10	3284 B8	F225 D5	I275 A9
2275 G9	3285 G6	F226 D5	I277 C8
2276 G10	3286 H6	F227 D4	I278 C8
2277 F10	3287 B7	F228 E5	I283 B6
2278 F11	3288 B7	F229 E5	I284 B6
2279 F11	3289 D2	F230 G4	I285 B6
2280 A3	3290 B8	F231 G4	I286 B6
2281 B3	3291 F2	F232 F5	I289 A3
2282 F10	3292 F2	F233 F5	I290 A3
2283 F10	3293 G2	F234 F5	I291 A4
2284 F10	3294 G2	F235 F5	I292 B3
2285 F6	3295 F6	F236 F6	I293 B3
2286 F7	3296 B5	F237 F6	I294 B3
2287 H7	3297 A11	F238 F6	I297 B8
2288 H6	3298 A12	F239 F6	I298 C7
2290 F3	3299 B10	F240 F6	
2291 F2	4204 C9	F241 G7	
2292 E11	4205 C9	F242 G7	
2293 C10	4206 F3	F243 G7	
3201 A3	4207 E2	F244 F8	
3202 A4	4208 E2	F245 F9	
3203 A4	4209 E3	F246 F10	
3204 B3	4211 A4	F247 D11	
3205 B4	4212 B4	F248 F8	
3206 B4	4216 B9	F249 E11	
3207 B6	4217 B9	F250 A7	
3208 B6	4218 B9	F251 G9	
3209 B6	4219 B9	F252 G9	
3210 B6	4220 A11	F253 G9	

SSB: Sync Interface

B3 SYNC INTERFACE



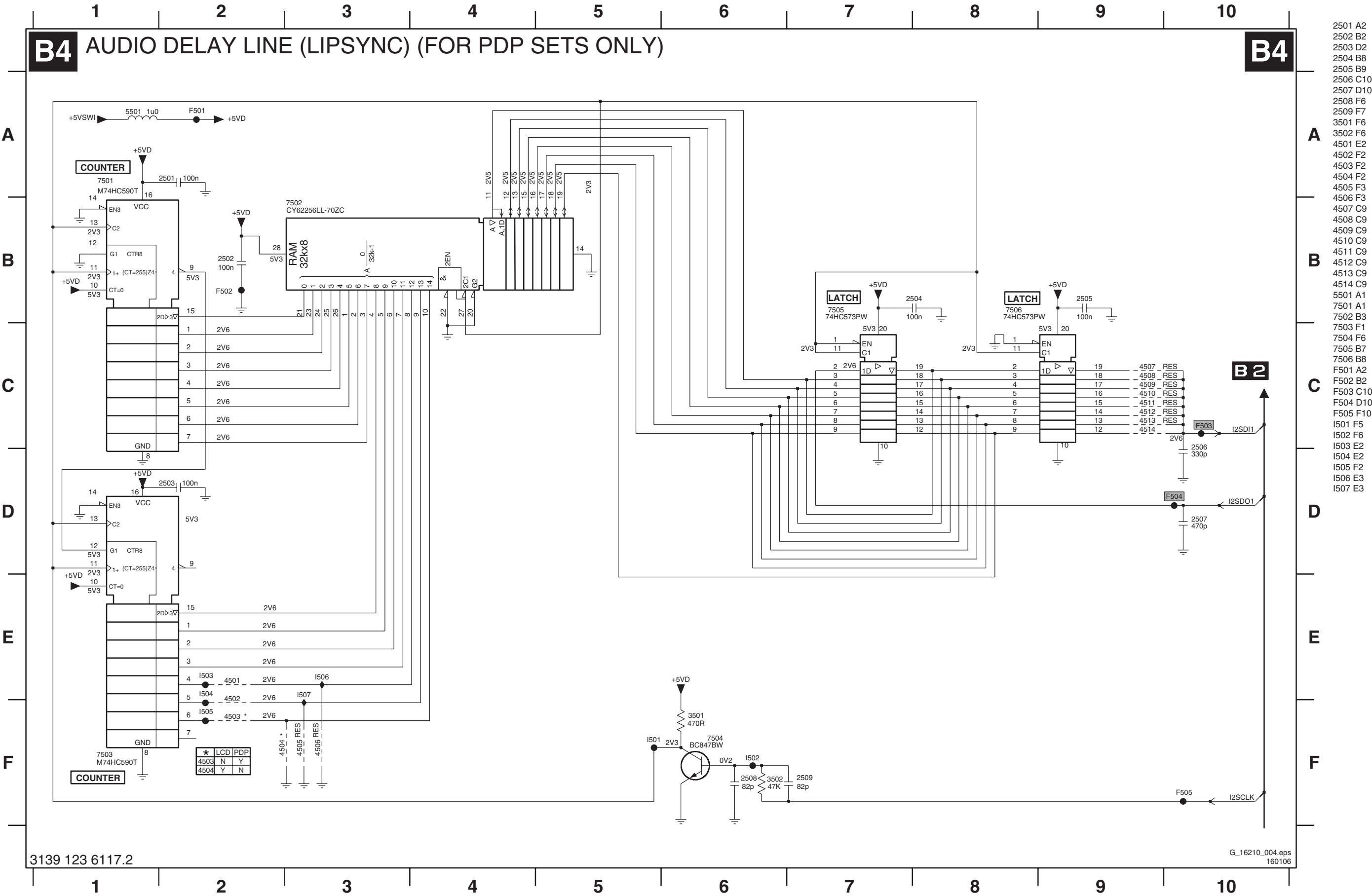
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160106

- 1440 A9
- 1441 A9
- 1442 D9
- 2447 A8
- 2448 A8
- 2449 E4
- 3431 B2
- 3432 B3
- 3451 B5
- 3453 B6
- 3454 B7
- 3455 C6
- 3456 C7
- 3458 D2
- 3459 D4
- 3461 E2
- 3462 E4
- 3463 C3
- 4436 B6
- 4437 C6
- 4439 E1
- 4440 D2
- 4441 E2
- 5431 A8
- 6430 B3
- 6431 B3
- 7430 B2
- 7436-1 B6
- 7436-2 C6
- 7436-3 D2
- 7436-4 D3
- 7436-5 E3
- 7436-6 E3
- F404 D8
- F405 D8
- F406 E8
- F407 E8
- F408 E8
- F409 E8
- F410 E8
- F411 E8
- F412 E8
- I430 B3
- I440 C5
- I443 B5
- I449 A8
- I450 A8
- I451 A8
- I452 A8
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- I454 B2
- I455 E2

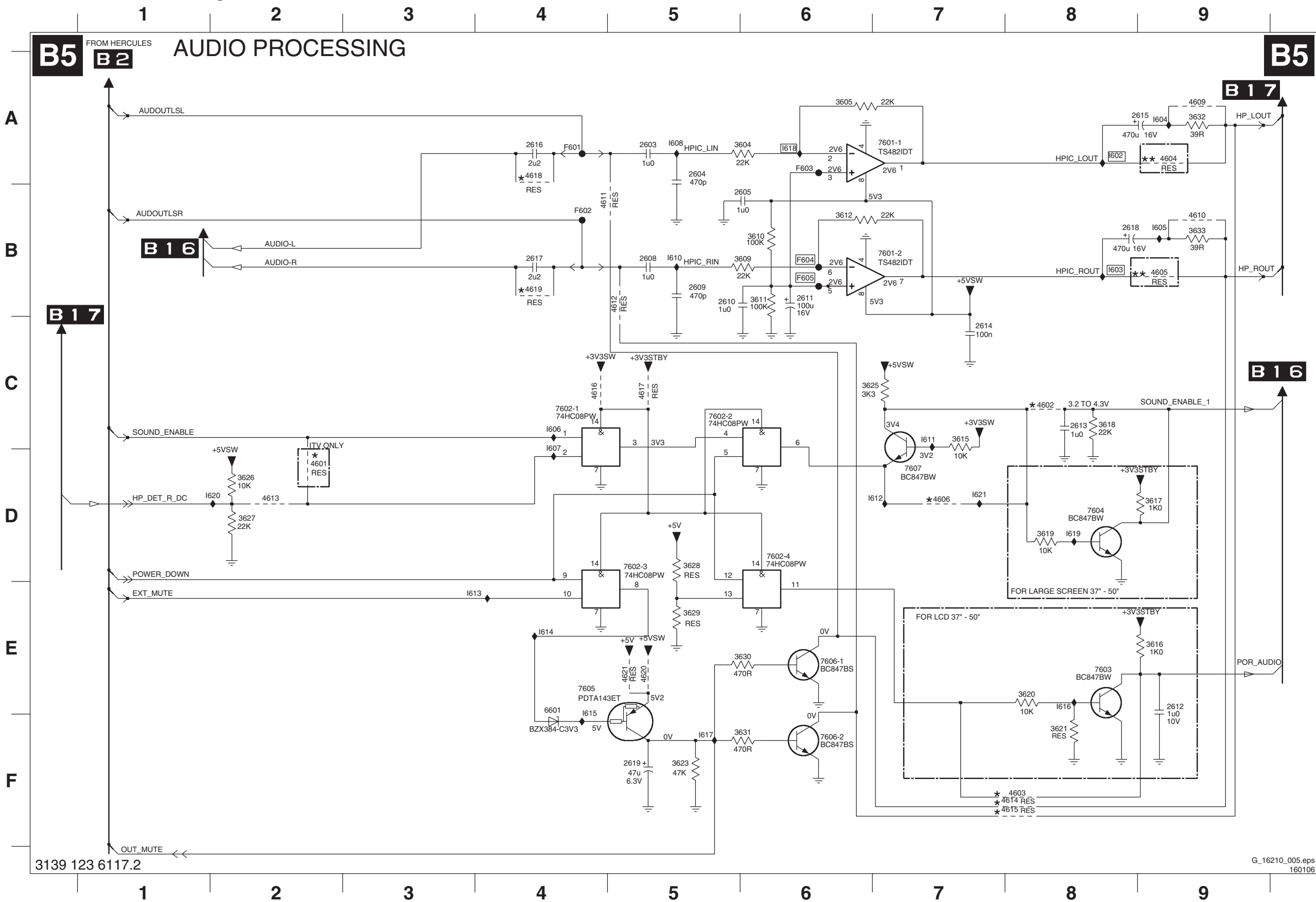
SSB: Audio Delay Line (PDP Only)

B4 AUDIO DELAY LINE (LIPSYNC) (FOR PDP SETS ONLY)



- 2501 A2
- 2502 B2
- 2503 D2
- 2504 B8
- 2505 B9
- 2506 C10
- 2507 D10
- 2508 F6
- 2509 F7
- 3501 F6
- 3502 F6
- 4501 E2
- 4502 F2
- 4503 F2
- 4504 F2
- 4505 F3
- 4506 F3
- 4507 C9
- 4508 C9
- 4509 C9
- 4510 C9
- 4511 C9
- 4512 C9
- 4513 C9
- 4514 C9
- 5501 A1
- 5501 A1
- 7501 A1
- 7502 B3
- 7503 F1
- 7504 F6
- 7505 B7
- 7506 B8
- F501 A2
- F502 B2
- F503 C10
- F504 D10
- F505 F10
- I501 F5
- I502 F6
- I503 E2
- I504 E2
- I505 F2
- I506 E3
- I507 E3

SSB: Audio Processing

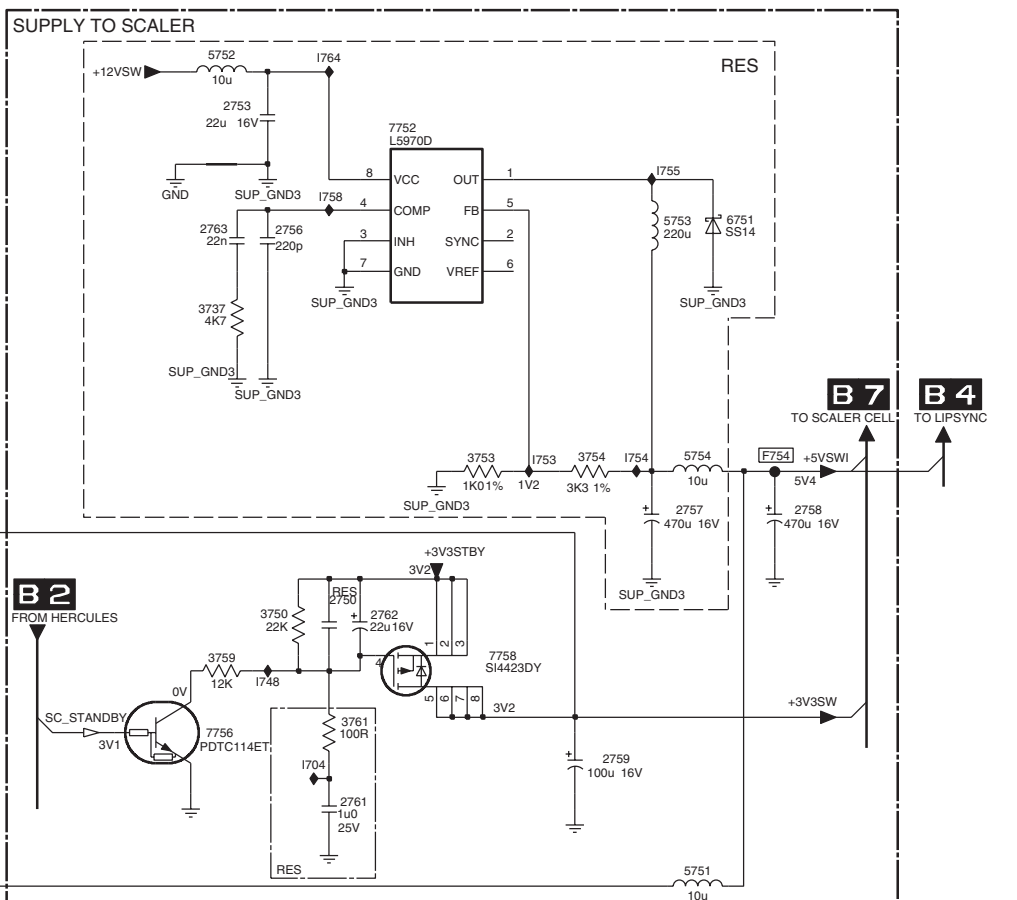
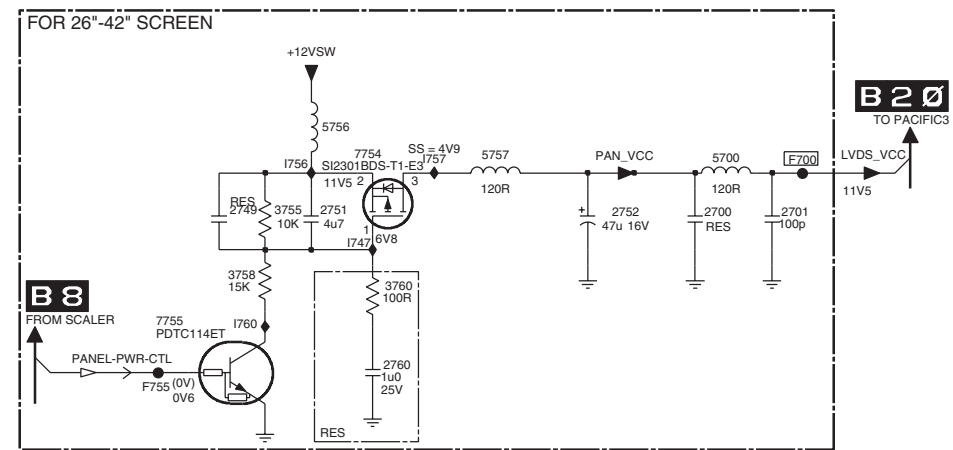
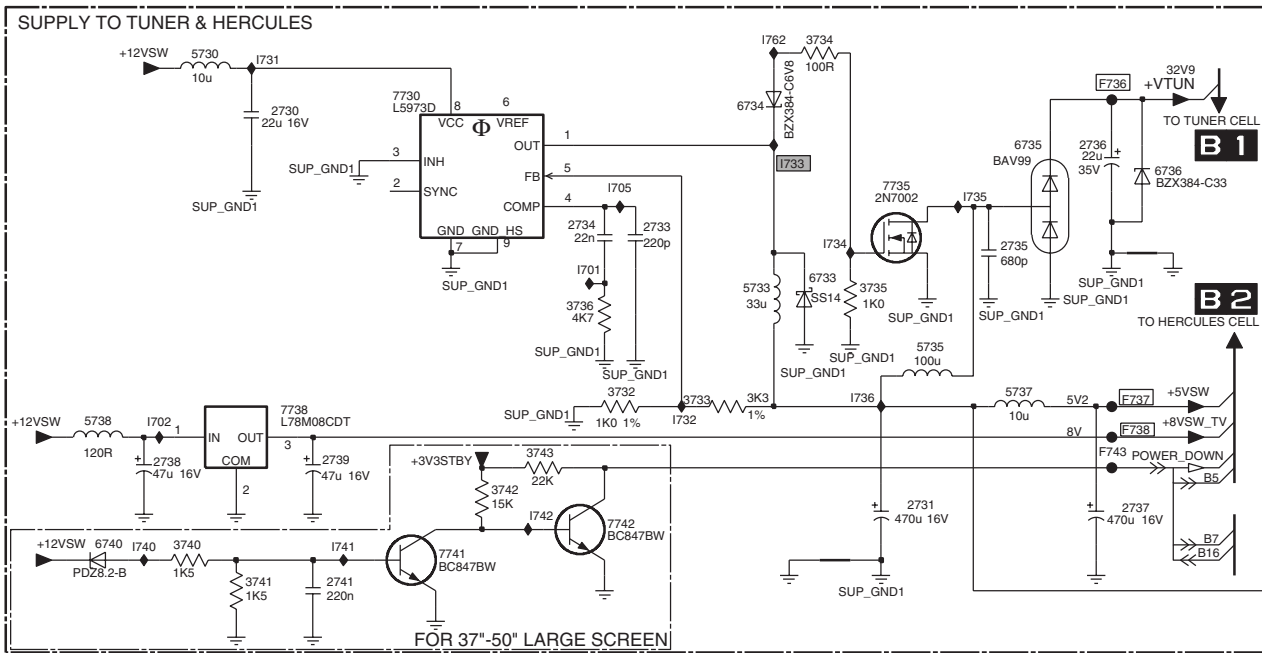
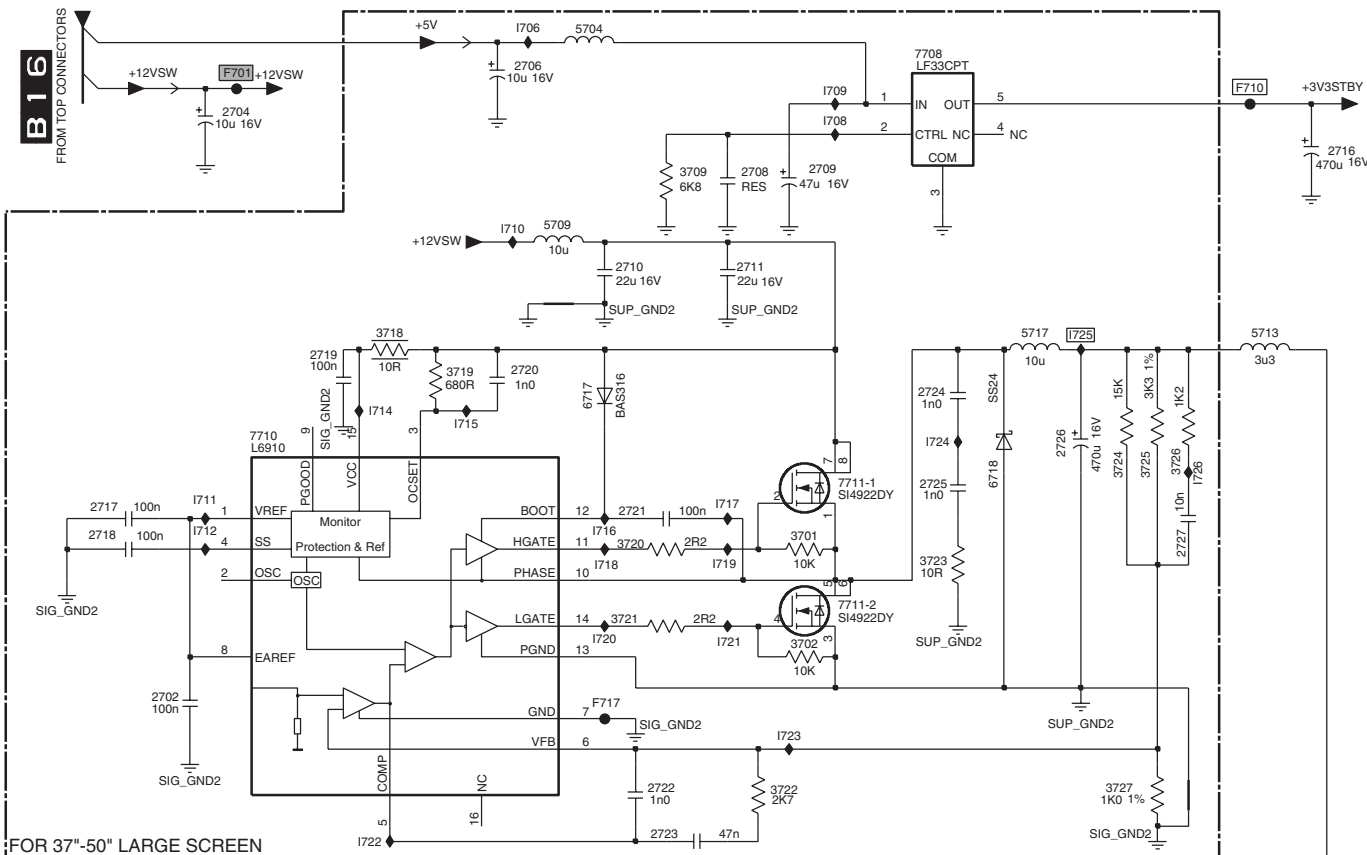


- 2603 A5
- 2604 A5
- 2605 B6
- 2608 B5
- 2609 B5
- 2610 B5
- 2611 B6
- 2612 E9
- 2613 C8
- 2614 C7
- 2615 A9
- 2616 A4
- 2617 B4
- 2618 B8
- 2619 F5
- 3604 A6
- 3605 A6
- 3609 B6
- 3610 B6
- 3611 B6
- 3612 B6
- 3615 C7
- 3616 E9
- 3617 D9
- 3618 C8
- 3619 D8
- 3620 E8
- 3621 F8
- 3623 F5
- 3625 C6
- 3626 D2
- 3627 D2
- 3628 D5
- 3629 E5
- 3630 E6
- 3631 F6
- 3632 A9
- 3633 B9
- 4601 D2
- 4602 C8
- 4603 F8
- 4604 A9
- 4605 B9
- 4606 D7
- 4609 A9
- 4610 B9
- 4611 B4
- 4612 B5
- 4613 D2
- 4614 F8
- 4615 F8
- 4616 C4
- 4617 C5
- 4618 A4
- 4619 B4
- 4620 E5
- 4621 E5
- 6601 E4
- 7601-1 A7
- 7601-2 B7
- 7602-1 C4
- 7602-2 C5
- 7602-3 D5
- 7602-4 D6
- 7603 E8
- 7604 D8
- 7605 E4
- 7606-1 E6
- 7606-2 F6
- 7607 D7
- F601 A4
- F602 B4
- F603 A6
- F604 B6
- F605 B6
- I602 A8
- I603 B8
- I604 A9
- I605 B9
- I606 C4
- I607 C4
- I608 A5
- I610 B5
- I611 C7
- I612 D7
- I613 E3
- I614 E4
- I615 E4
- I616 E8
- I617 F5
- I618 A6
- I619 D8
- I620 D2
- I621 D7

SSB: DC-DC Converter

B6 DC-DC CONVERTER

B6



2700 B11	6736 F6
2701 B11	6740 H1
2702 D1	6751 E10
2704 B2	7708 A5
2706 A3	7710 C2
2708 B4	7711-1 C4
2709 B4	7711-2 D4
2710 B4	7730 F2
2711 B4	7735 F5
2716 B7	7738 G2
2717 D1	7741 H3
2718 D1	7742 H3
2719 C2	7752 D9
2720 C3	7754 B9
2721 D4	7755 C8
2722 E4	7756 G8
2723 E4	7758 G9
2724 C5	7700 B11
2725 C5	7701 B2
2726 C5	7710 B6
2727 D6	7717 D3
2728 F2	7736 F6
2731 H5	7737 G6
2733 F4	7738 G6
2734 F3	7743 G6
2735 F5	7754 F11
2736 F6	7755 C8
2737 H6	7701 F3
2738 G1	7702 G1
2739 G2	7704 G8
2741 H2	7705 F3
2749 B8	7706 A3
2750 F9	7708 B4
2751 B9	7709 B4
2752 B10	7710 B3
2753 D8	7711 D2
2756 E8	7712 D2
2757 F10	7714 C2
2758 F11	7715 C3
2759 G10	7716 D3
2760 C9	7717 D4
2761 G9	7718 D3
2762 G9	7719 D4
2763 E8	7720 D3
3701 D4	7721 D4
3702 D4	7722 E2
3709 B4	7723 E4
3718 C2	7724 C5
3719 C3	7725 C6
3720 D4	7726 C6
3721 D3	7731 E2
3722 E4	7732 G4
3723 D5	7733 F4
3724 C6	7734 F4
3725 C6	7735 F5
3726 C6	7736 G5
3727 E6	7740 H1
3732 G3	7741 H2
3733 G4	7742 H3
3734 E4	7747 B9
3735 G5	7748 G8
3736 G3	7753 F9
3737 E8	7754 F10
3740 H2	7755 D10
3741 H2	7756 B9
3742 H3	7757 B9
3743 G3	7758 E8
3750 G8	7760 C8
3753 F9	7762 E4
3754 F10	7764 D8
3755 B9	
3758 C8	
3759 G8	
3760 C9	
3761 G9	
5700 B11	
5709 B3	
5713 C6	
5717 C5	
5730 E2	
5733 G4	
5735 G5	
5737 G5	
5738 G1	
5751 H10	
5752 D8	
5753 E10	
5754 F10	
5756 B9	
5757 B10	
6717 C3	
6718 C5	
6733 G4	
6734 F4	
6735 F5	

SSB: Diversity Tables B1-B6

B01

Item nr.	EU non DVB	EU DVB	Description
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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TUNER UV1318SD/A CP H N-4
3163	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 100R PM5 COL
3164	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 100R PM5 COL
5152	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FXDIND SM 1008 1U PM5 COL R
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FXDIND SM 1008 6U8 PM5 COL R
5157	<input type="checkbox"/>	<input checked="" type="checkbox"/>	FXDIND 0603 100MHZ 600R COL R
5158	<input type="checkbox"/>	<input checked="" type="checkbox"/>	FXDIND 0603 100MHZ 600R COL R

B02

Item Nr.		/93 China	AP 10pg TXT	EU 10pg TXT	EU 10pg TXT DVB	EU 1000pg TXT	EU 1000pg TXT DVB	Description
2203	319803041090	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ELCAP SM 16V 10U PM20 COL R
2244	319803571040	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2245	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2246	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2280	202055200005	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0603 X5R 6V3 4U7 PM10 R
2281	202055200005	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0603 X5R 6V3 4U7 PM10 R
2289	319802131510	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 150R PM5 COL
2290	222224059872	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0805 Y5V 10V 4U7 P8020 R
2291	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
3250	319803101010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 100R PM5 COL
3251	319803101010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 100R PM5 COL
3252	319803101010	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 100R PM5 COL
3253	319803101010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 100R PM5 COL
3255	319803190010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 JUMP. 0R05 COL
3256	319803190010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 JUMP. 0R05 COL
3257	319803190010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 JUMP. 0R05 COL
3258	319803101020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 1K PM5 COL
3259	319803101020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 1K PM5 COL
3260	319803101020	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 1K PM5 COL
3282	319802131510	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 150R PM5 COL
3294	319803104730	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 47K PM5 COL
3296	319803101010	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 100R PM5 COL
4206	319802190020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0805 JUMP. 0R05 COL R
4218	319803190010	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 JUMP. 0R05 COL
4219	319803190010	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 JUMP. 0R05 COL
5218	242254945333	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IND FXD 1206 EMI 100MHZ 120R R
6206	319801010660	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DIO SIG SM BAT54 SOD323 COL R
7208	319801042310	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TRA SIG SM BC847BW (COL) R
7209	319801042310	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TRA SIG SM BC847BW (COL) R
7210	319801042310	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TRA SIG SM BC847BW (COL) R
7217	935280215557	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IC SM TDA15031H/N1C91 (PHSE)Y
	935280366557	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IC SM TDA15021H/N1C91 (PHSE) Y
	935280367557	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IC SM TDA15011H/N1CD0 (PHSE) Y
7219	319801071090	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IC SM 74HC4053D (COL) R

B03

Item Nr.		10pg TXT (w/o OTC)	1000pg TXT (with OTC)	DVB 10pg TXT (w/o OTC)	DVB 1000pg TXT (with OTC)	Description
1442	242202519085	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CON V 14P M 1.00 SM SR R
3432	319803102720	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 2K7 PM5 COL
6430	934054842115	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DIO REG SM PDZ2.4B (PHSE) R
6431	932220595685	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DIO SIG SM 1N4148WS-V (VISH) R

B05

Item Nr.		LCD 37" - 50"	LCD 26" - 32"	PDP 42" - 50"	Decription
2612	319801741050	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CER2 0603 Y5V 10V 1U COL
2613	319801741050	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CER2 0603 Y5V 10V 1U COL
2616	202055200035	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0603 X5R 6V3 2U2 PM10 R
2617	202055200035	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0603 X5R 6V3 2U2 PM10 R
2619	319803024790	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ELCAP SM 6V3 47U PM20 COL R
3615	319803101030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 10K PM5 COL
3616	319803101020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 1K PM5 COL
	319803190010	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 JUMP. 0R05 COL
3617	319803101020	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 1K PM5 COL
3618	319803102230	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 22K PM5 COL
3619	319803101030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 10K PM5 COL
3620	319803101030	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 10K PM5 COL
3623	319803104730	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 47K PM5 COL
3625	319803103320	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 3K3 PM5 COL
3627	319803102230	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 22K PM5 COL
3628	319803101030	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 10K PM5 COL
3629	319803102230	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 22K PM5 COL
3630	319803102220	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 2K2 PM5 COL
	319803103310	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 330R PM5 COL
3631	319803102220	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 2K2 PM5 COL
	319803103310	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0402 330R PM5 COL
3632	232270570569	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 RC31 56R PM5 R
3633	232270570569	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0402 RC31 56R PM5 R
4601	319802190030	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4602	319802190030	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4603	319802190030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4606	319802190030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4609	319802190030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4610	319802190030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4611	319802190030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4612	319802190030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4613	319802190030	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4614	319802190030	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4615	319802190030	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4618	319802190030	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
4619	319802190030	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RST SM 0603 JUMP. 0R05 COL
7603	319801042310	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TRA SIG SM BC847BW (COL) R
7604	319801042310	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	TRA SIG SM BC847BW (COL) R
7607	319801042310	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	TRA SIG SM BC847BW (COL) R

B06

Item Nr.		PDP - 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	Description
2701	319803401010				CER1 0402 NP0 50V 100P COL
2702	319803571040				CER2 0402 Y5V 16V 100N COL
2706	319803041090				ELCAP SM 16V 10U PM20 COL R
2709	319803044790				ELCAP SM 16V 47U PM20 COL R
2710	202055200211				CER2 1210 X5R 16V 22U PM10 R
2711	202055200211				CER2 1210 X5R 16V 22U PM10 R
2717	319803571040				CER2 0402 Y5V 16V 100N COL
2718	319803571040				CER2 0402 Y5V 16V 100N COL
2719	319803571040				CER2 0402 Y5V 16V 100N COL
2720	319803501020				CER2 0402 X7R 50V 1N COL
2721	319803571040				CER2 0402 Y5V 16V 100N COL
2722	319803501020				CER2 0402 X7R 50V 1N COL
2723	319803574730				CER2 0402 Y5V 16V 47N COL
2724	319801631020				CER1 0603 NP0 25V 1N COL
2725	319801631020				CER1 0603 NP0 25V 1N COL
2726	202002100097				ELCAP SM SGV 16V 470U PM20 R
2727	319803521030				CER2 0402 X7R 16V 10N COL
2741	319801732240				CER2 0603 X7R 10V 220N COL
	222224059872				CER2 0805 Y5V 10V 4U7 P8020 R
2752	319803044790				ELCAP SM 16V 47U PM20 COL R
3701	319803101030				RST SM 0402 10K PM5 COL
3702	319803101030				RST SM 0402 10K PM5 COL
3709	319803106820				RST SM 0402 6K8 PM5 COL
3718	232275061009				RST SM FUSE 1206 10R PM5 R
3719	319803106810				RST SM 0402 680R PM5 COL
3720	319802132280				RST SM 0603 2R2 PM5 COL
3721	319802132280				RST SM 0603 2R2 PM5 COL
3722	319803102720				RST SM 0402 2K7 PM5 COL
3723	319802151090				RST SM 0805 10R PM5 COL R
3724	319803101530				RST SM 0402 15K PM5 COL
3725	232270463302				RST SM 0603 RC22H 3K3 PM1 R
3726	319803101220				RST SM 0402 1K2 PM5 COL
3727	232270461002				RST SM 0603 RC22H 1K PM1 R
3740	319803101520				RST SM 0402 1K5 PM5 COL
3741	319803101520				RST SM 0402 1K5 PM5 COL
3742	319803101530				RST SM 0402 15K PM5 COL
3743	319803102230				RST SM 0402 22K PM5 COL
3750	319803102230				RST SM 0402 22K PM5 COL
3755	319803101030				RST SM 0402 10K PM5 COL
3758	319803101530				RST SM 0402 15K PM5 COL
3759	319803101230				RST SM 0402 12K PM5 COL
5700	242254945333				IND FXD 1206 EMI 100MHZ 120R R
5704	242254945333				IND FXD 1206 EMI 100MHZ 120R R
5709	242253594134				IND FXD SM 7032 10U PM20 R
5713	242253601218				IND FXD SM DRH104RNP 3U3 PM30
5717	242253600671				IND FXD SM 12575 10U PM20 R
5754	242253594134				IND FXD SM 7032 10U PM20 R
5756	242254945333				IND FXD 1206 EMI 100MHZ 120R R
5757	242254945333				IND FXD 1206 EMI 100MHZ 120R R
6717	319801010630				DIO SIG SM BAS316 (COL) R
6718	319801010720				DIO REC SS24 COL R
6740	934054857115				DIO REG SM PD28.2B (PHSE) R
6751	319801010710				DIO REC SS14 COL R
7708	932213916668				IC SM LF33CPT (ST00) R
7710	932218277668				IC SM L6910 (ST00) R
7711	932216070668				FET POW SM SI4936ADY-E3(VISH)R
7741	319801042310				TRA SIG SM BC847BW (COL) R
7742	319801042310				TRA SIG SM BC847BW (COL) R
7754	932221400668				FET POW SM SI2301BDS-E3(VISH)R
7755	319801044110				TRA SIG SM PDDTC114ET (COL) R
7756	319801044110				TRA SIG SM PDDTC114ET (COL) R
7758	932221214668				FET POW SM SI4423DY-E3 (VISH)R

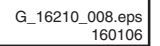
B7 SCALER



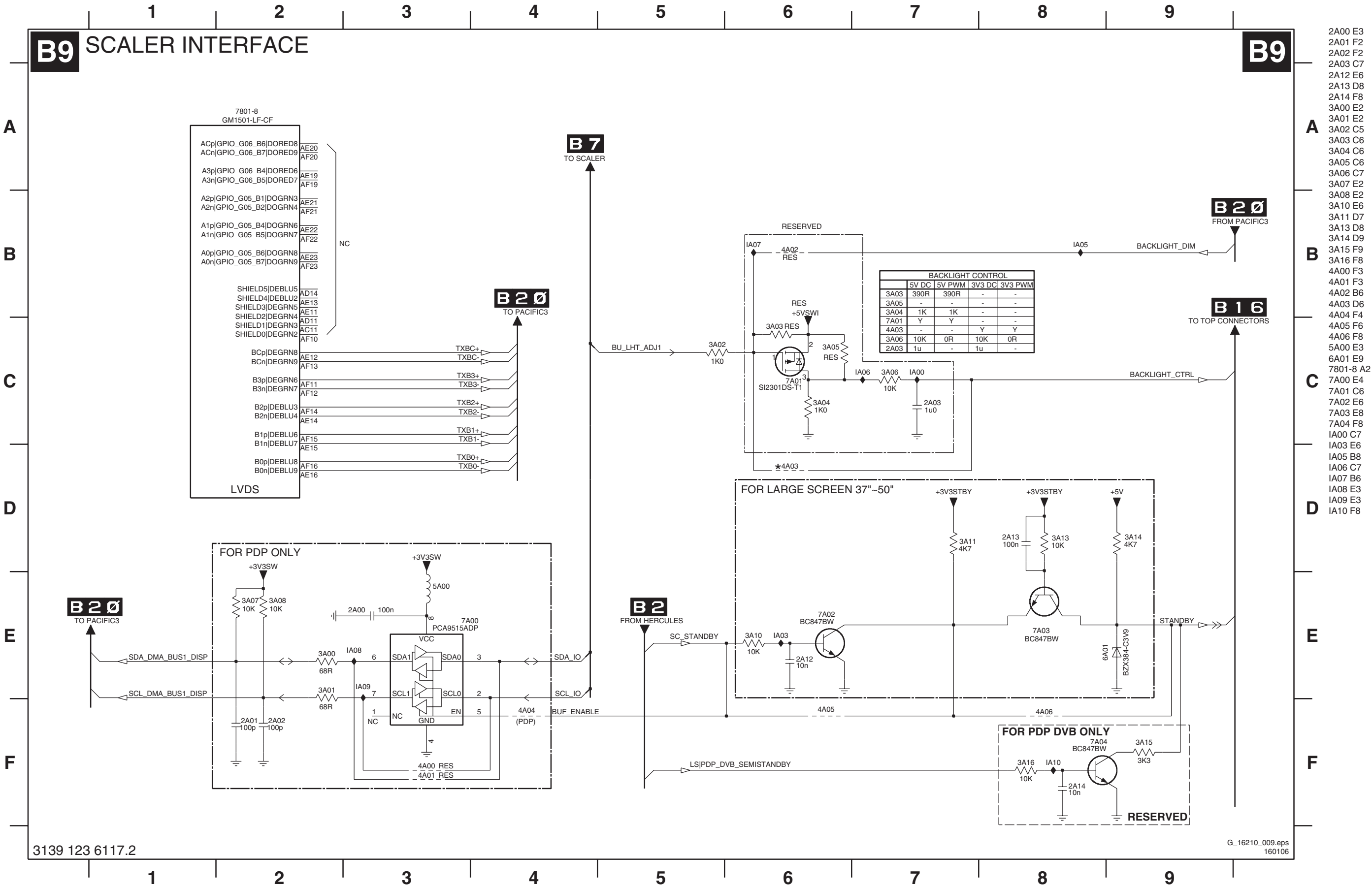
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160106

1802 B15	7801-5 E12
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2801 A1	7801-9 G11
2801 A1	F800 A1
2802 A2	F801 C3
2802 A2	F802 A10
2803 A5	F803 G15
2805 A2	F804 G15
2806 A2	I800 G3
2807 A3	I801 B13
2808 A3	I802 F10
2809 A3	I803 F10
2810 A3	I804 E13
2811 A4	I805 F13
2812 A4	I806 F13
2813 C3	I807 F13
2814 C3	I808 F13
2815 A10	I809 G13
2816 A10	I810 H13
2817 A10	I811 G15
2818 A10	I812 G3
2819 A10	I813 A1
2820 A12	I815 G3
2821 A13	I816 G3
2822 A13	I817 H6
2823 B10	I818 G3
2824 B13	I819 I10
3800 B3	I820 I10
3801-1 C2	I822 H13
3801-2 C2	I823 G6
3801-3 C2	I824 I10
3802-1 D2	
3802-2 C2	
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3815 D7	
3816 E7	
3817 E6	
3818 E6	
3819 F3	
3820 G2	
3822 G6	
3823 G6	
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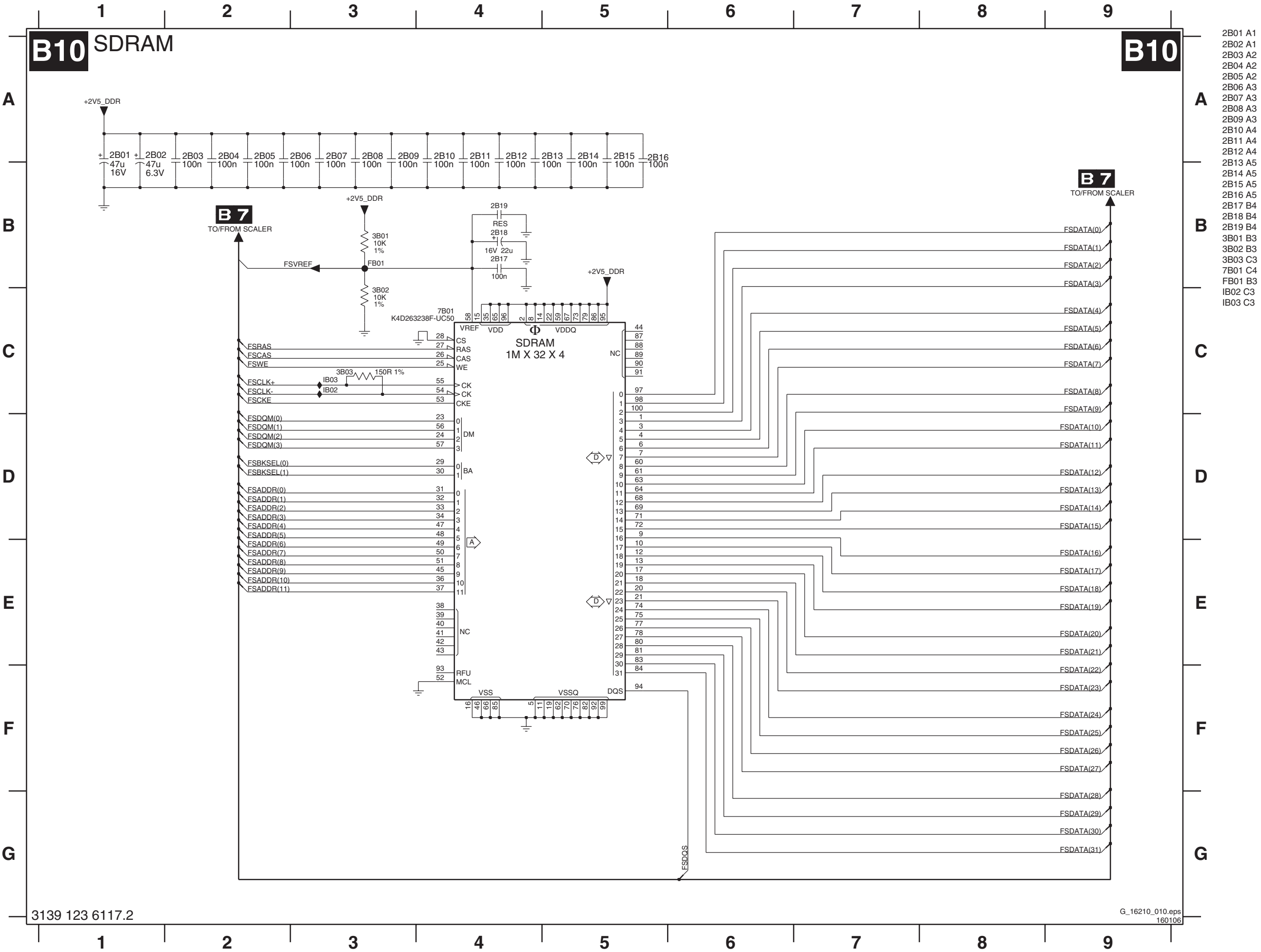
B8 SCALER



SSB: Scaler Interface



SSB: SDRAM



- 2B01 A1
- 2B02 A1
- 2B03 A2
- 2B04 A2
- 2B05 A2
- 2B06 A3
- 2B07 A3
- 2B08 A3
- 2B09 A3
- 2B10 A4
- 2B11 A4
- 2B12 A4
- 2B13 A5
- 2B14 A5
- 2B15 A5
- 2B16 A5
- 2B17 B4
- 2B18 B4
- 2B19 B4
- 3B01 B3
- 3B02 B3
- 3B03 C3
- 7B01 C4
- FB01 B3
- IB02 C3
- IB03 C3

SSB: Flash / Control

B11 FLASH / CONTROL

B11

- 1C00 E4
- 2C00 A3
- 2C01 B3
- 2C02 E2
- 2C03 E4
- 2C04 D1
- 2C05 D1
- 3C00 E2
- 3C01 F4
- 3C02 E6
- 3C03 F6
- 3C04-1 B6
- 3C04-2 B6
- 3C04-3 B6
- 3C04-4 B6
- 3C05 B6
- 3C06-1 B5
- 3C06-2 B5
- 3C06-3 B5
- 3C06-4 B5
- 3C07-1 C5
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- 3C07-3 C5
- 3C07-4 C5
- 3C08-1 C5
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- 3C08-3 C5
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- 3C10-3 D5
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- 3C16-2 C7
- 3C16-3 C6
- 3C16-4 C6
- 3C17 C6
- 3C18 C7
- 3C19 D6
- 3C20 D7
- 3C21 D7
- 3C22 D1
- 3C23 D1
- 5C00 A2
- 7C01 E3
- 7C02 E5
- 7C03 B2
- FC00 A2
- FC01 E2
- FC02 F2
- FC03 F2
- FC04 F4
- FC05 F5
- FC06 D6
- FC07 D6
- FC08 C7
- FC09 C7
- FC10 C7
- FC11 D1

A

A

B

B

C

C

D

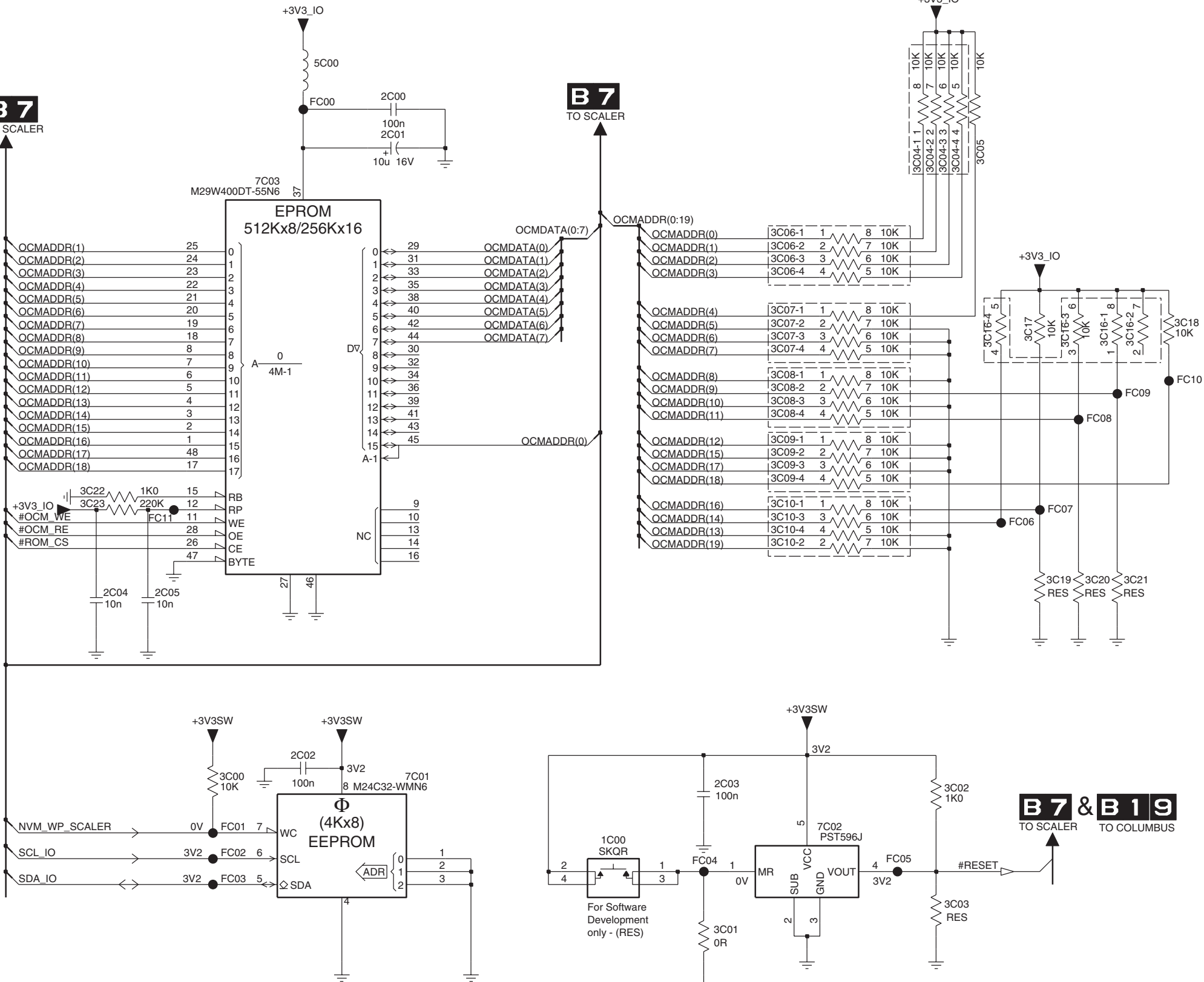
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E

E

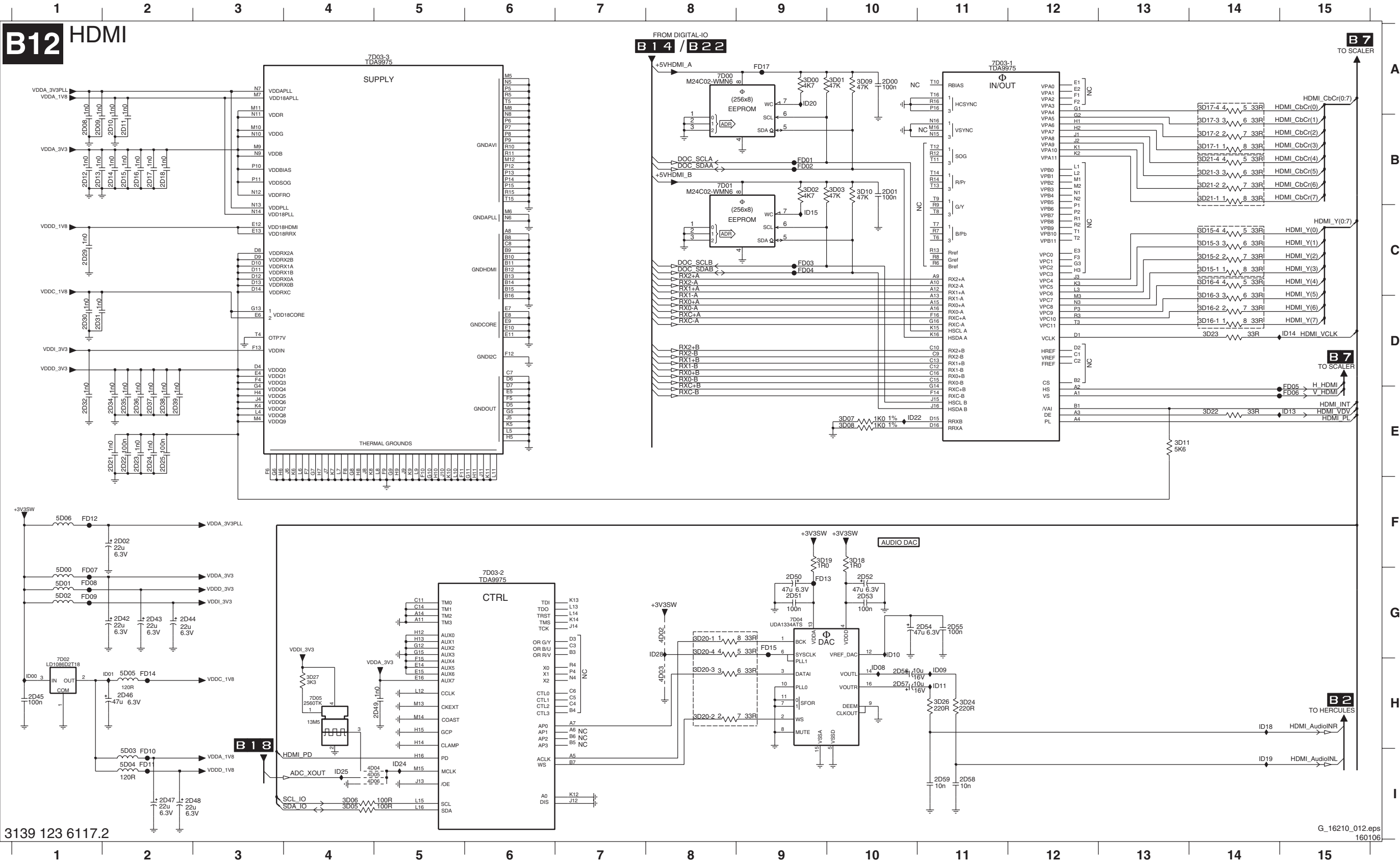
F

F



SSB: HDMI

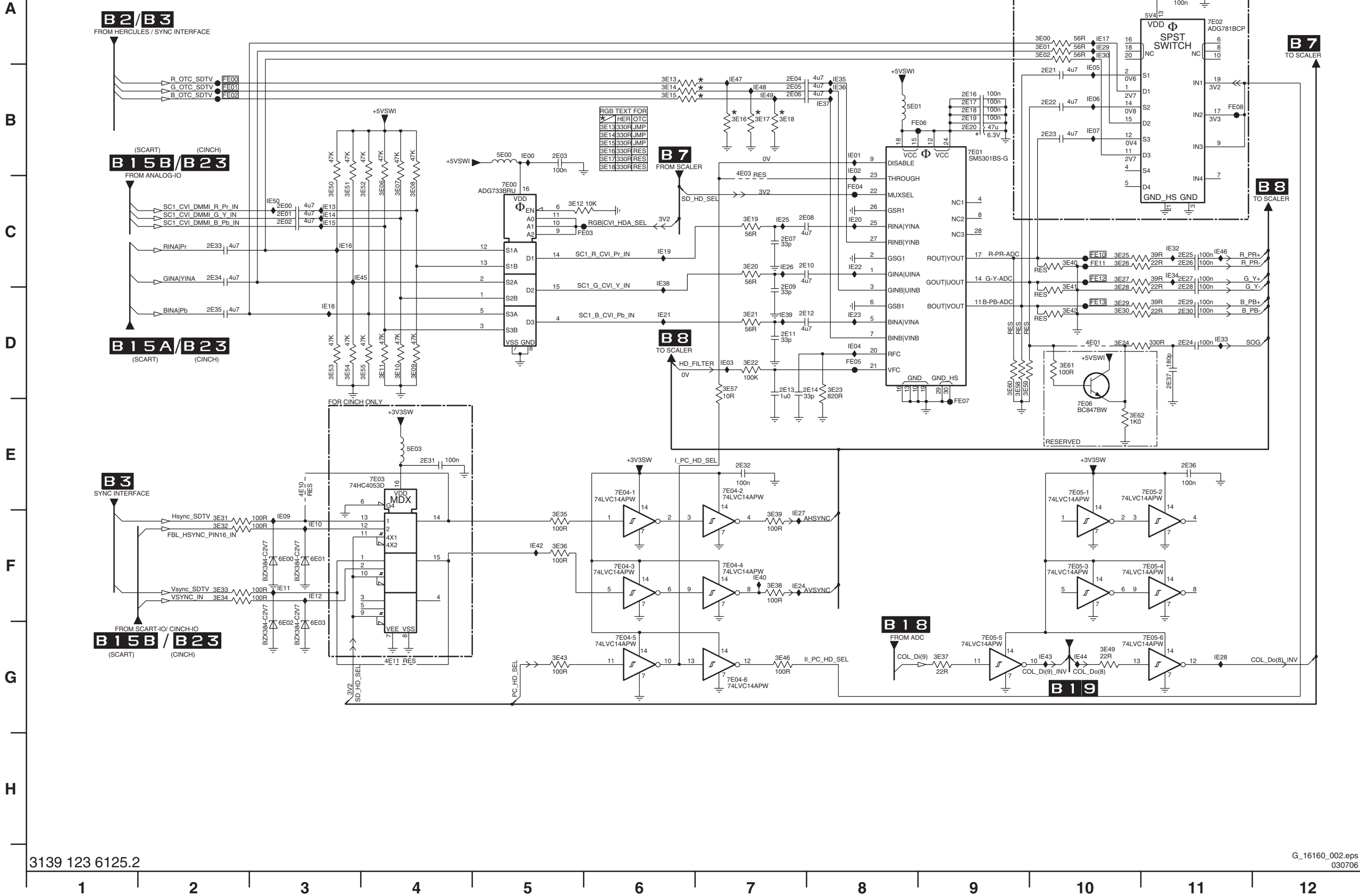
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2D01 B10	2D11 B2	2D16 B2	2D23 E2	2D31 D1	2D37 E2	2D44 G2	2D49 H5	2D54 G11	2D59 I11	3D05 I4	3D10 B10	3D15-4 C14	3D17-1 B14	3D19 F9	3D21-1 B14	3D23 D14	4D03 H8	5D01 G1	5D06 F1	7D03-2 G6	FD02 B9	FD07 G1	FD12 F1	ID00 H1	ID11 H11	ID20 A9	
2D02 F2	2D12 B1	2D17 B2	2D24 E2	2D32 E1	2D38 E2	2D45 H1	2D50 G9	2D55 G11	3D00 A9	3D06 I4	3D11 E13	3D16-1 D14	3D17-2 B14	3D20-1 G8	3D21-2 B14	3D24 H11	4D04 I4	5D02 G1	5D07 A8	7D03-3 A5	FD03 C9	FD08 G1	FD13 G9	ID01 H2	ID13 E15	ID22 E10	
2D08 B1	2D13 B1	2D18 B2	2D25 E2	2D34 E2	2D39 E2	2D46 H2	2D51 G9	2D56 H10	3D01 A10	3D07 E10	3D15-1 C14	3D16-2 D14	3D17-3 B14	3D20-2 H8	3D21-3 B14	3D26 H11	4D05 I4	5D03 H2	5D04 I2	7D04 B8	7D04 G9	FD04 C9	FD09 G1	FD14 H2	ID08 H10	ID14 D15	ID24 I5
2D09 B1	2D14 B2	2D21 E2	2D29 C1	2D35 E2	2D42 G2	2D47 I2	2D52 G10	2D57 H10	3D02 B9	3D08 E10	3D15-2 C14	3D16-3 D14	3D17-4 A14	3D20-3 H8	3D21-4 B14	3D27 H4	4D06 I4	5D04 I2	5D05 H2	7D05 H4	FD05 E15	FD10 I2	FD15 G9	ID09 H11	ID18 H14	ID25 I4	



SSB: MUX-Sync Interface

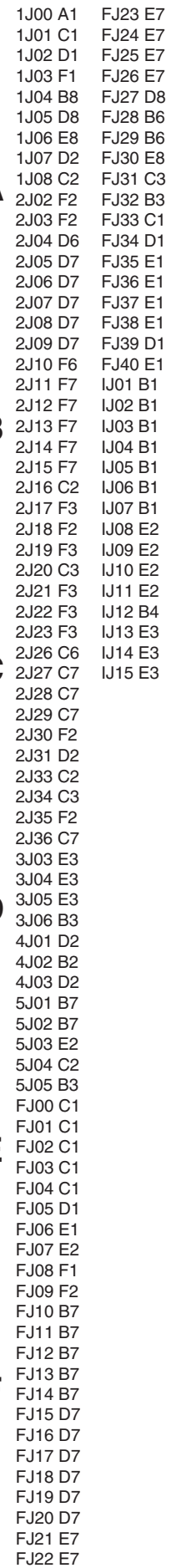
B13 MUX-SYNC INTERFACE

B13

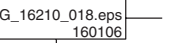


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- 2E01 C3
- 2E02 C3
- 2E03 B5
- 2E04 B7
- 2E05 B7
- 2E06 B7
- 2E07 C7
- 2E08 C8
- 2E09 D7
- 2E10 C8
- 2E11 D7
- 2E12 D8
- 2E13 D7
- 2E14 D8
- 2E15 A11
- 2E16 B9
- 2E17 B9
- 2E18 B9
- 2E19 B9
- 2E20 B9
- 2E21 B10
- 2E22 B10
- 2E23 B10
- 2E24 D11
- 2E25 C11
- 2E26 C11
- 2E27 C11
- 2E28 D11
- 2E29 D11
- 2E30 D11
- 2E31 E4
- 2E32 E7
- 2E33 C2
- 2E34 C2
- 2E35 D2
- 2E36 E11
- 2E37 D11
- 3E00 A10
- 3E01 A10
- 3E02 A10
- 3E06 C4
- 3E07 C4
- 3E08 C4
- 3E09 D4
- 3E10 D4
- 3E11 D4
- 3E12 C5
- 3E13 B6
- 3E14 B6
- 3E15 B6
- 3E16 B7
- 3E17 B7
- 3E18 B7
- 3E19 C7
- 3E20 C7
- 3E21 D7
- 3E22 D7
- 3E23 D8
- 3E24 D10
- 3E25 C10
- 3E26 C10
- 3E27 C10
- 3E28 D10
- 3E29 D10
- 3E30 D10
- 3E31 F2
- 3E32 F2
- 3E33 F2
- 3E34 F2
- 3E35 F5
- 3E36 F5
- 3E37 G9
- 3E38 F7
- 3E39 F7
- 3E40 C10
- 3E41 D10
- 3E42 D10
- 3E43 G5
- 3E46 G7
- 3E49 G10
- 3E50 C3
- 3E51 C3
- 3E52 C4
- 3E53 D3
- 3E54 D3
- 3E55 D4
- 3E57 D7
- 3E58 D9
- 3E59 D9
- 3E60 D9
- 3E61 D10
- 3E62 E10
- 4E01 D10
- 4E03 B7
- 4E10 E3
- 4E11 G4
- 5E00 B5
- 5E01 B8
- 5E02 A10
- 5E03 E4
- 6E00 F3
- 6E01 F3
- 6E02 G3
- 6E03 G3
- 7E00 C5
- 7E01 B9
- 7E02 A11
- 7E03 E4
- 7E04-1 E6
- 7E04-2 E7
- 7E04-3 F6
- 7E04-4 F7
- 7E04-5 G6
- 7E04-6 G7
- 7E05-1 E10
- 7E05-2 E11
- 7E05-3 F10
- 7E05-4 F11
- 7E05-5 G9
- 7E05-6 G11
- 7E06 E10
- 7E07 B2
- 7E08 B2
- 7E09 B2
- 7E10 C10
- 7E11 C10
- 7E12 C10
- 7E13 D10
- 7E14 B5
- 7E15 B8
- 7E16 B8
- 7E17 B8
- 7E18 D3
- 7E19 C6
- 7E20 C8
- 7E21 D6
- 7E22 C8
- 7E23 D8
- 7E24 F7
- 7E25 C7
- 7E26 C7
- 7E27 F7
- 7E28 G11
- 7E29 A10
- 7E30 A10
- 7E32 C11
- 7E33 D11
- 7E34 C11
- 7E35 B8
- 7E36 B8
- 7E37 B8
- 7E38 C6
- 7E39 D7
- 7E40 F7
- 7E42 F5
- 7E43 G10
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- 7E45 C4
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- 7E48 B7
- 7E49 B7
- 7E50 C3

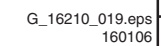
B16 TOP CONNECTORS



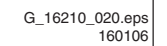
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1K01 C1	2K00 B9	2K03 B3	2K06 C3	2K10 D3	2K13 D3	2K16 E3	2K19 C3	2K22 B8	2K25 B9	2K28 B9	3K02 C3	3K06 D4	3K09 E3	3K13 B8	4K03 A9	4K06 A10	5K01 C8	FK01 C1	FK04 D1	FK07 D1	FK10 D1	IK01 A10	IK04 B3	IK17 C3
1K02 C10	2K01 B8	2K04 B3	2K07 C3	2K11 D3	2K14 D3	2K17 E3	2K20 C3	2K23 B8	2K26 B9	3K00 B3	3K03 C4	3K07 D3	3K11 A8	4K01 A9	4K04 A9	4K07 A9	5K02 A8	FK02 D1	FK05 D1	FK08 C10	FK11 B10	IK02 A10	IK05 A10	IK18 C3



B18 ADC



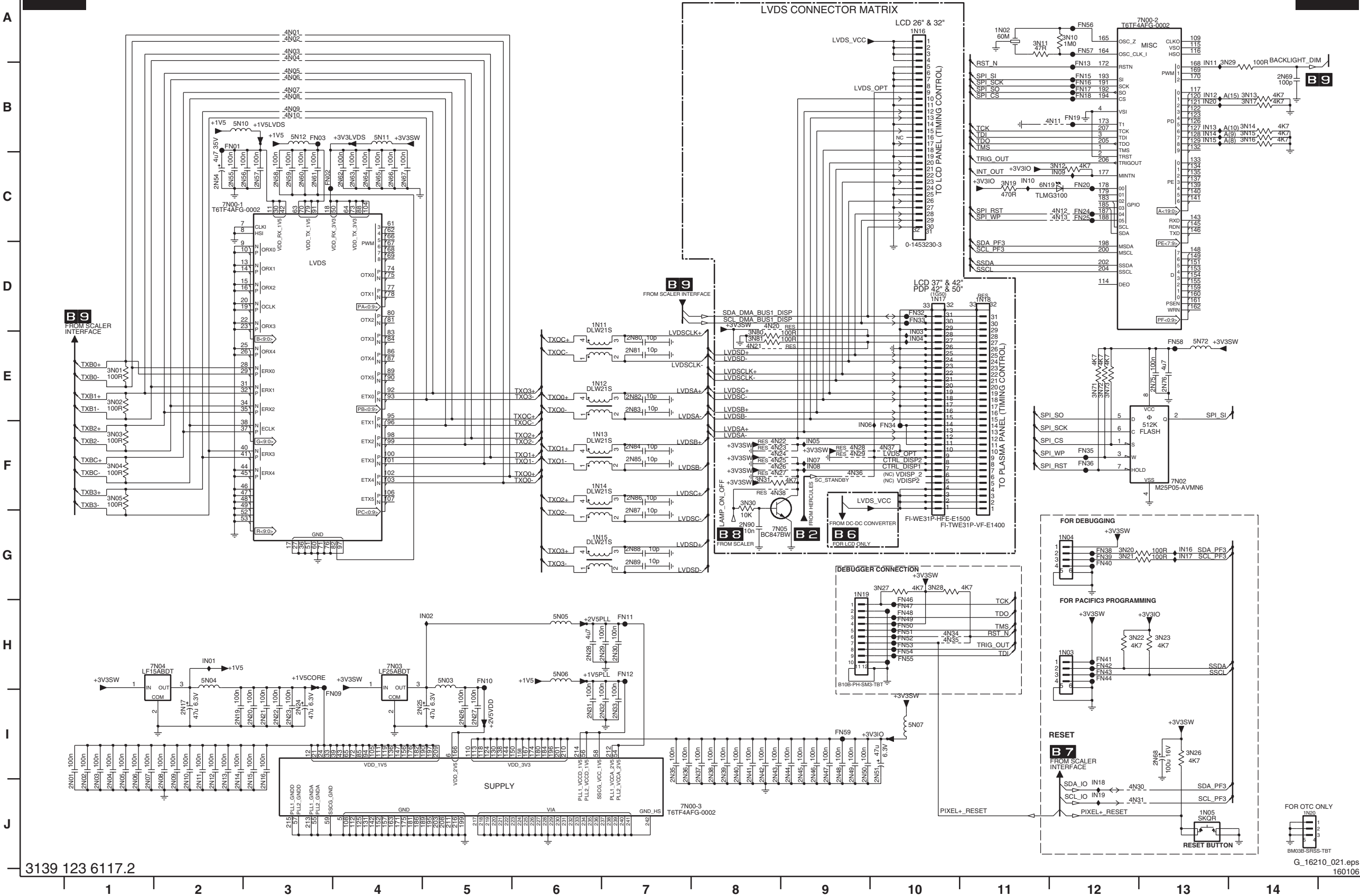
B19 COLUMBUS



SSB: Pacific 3

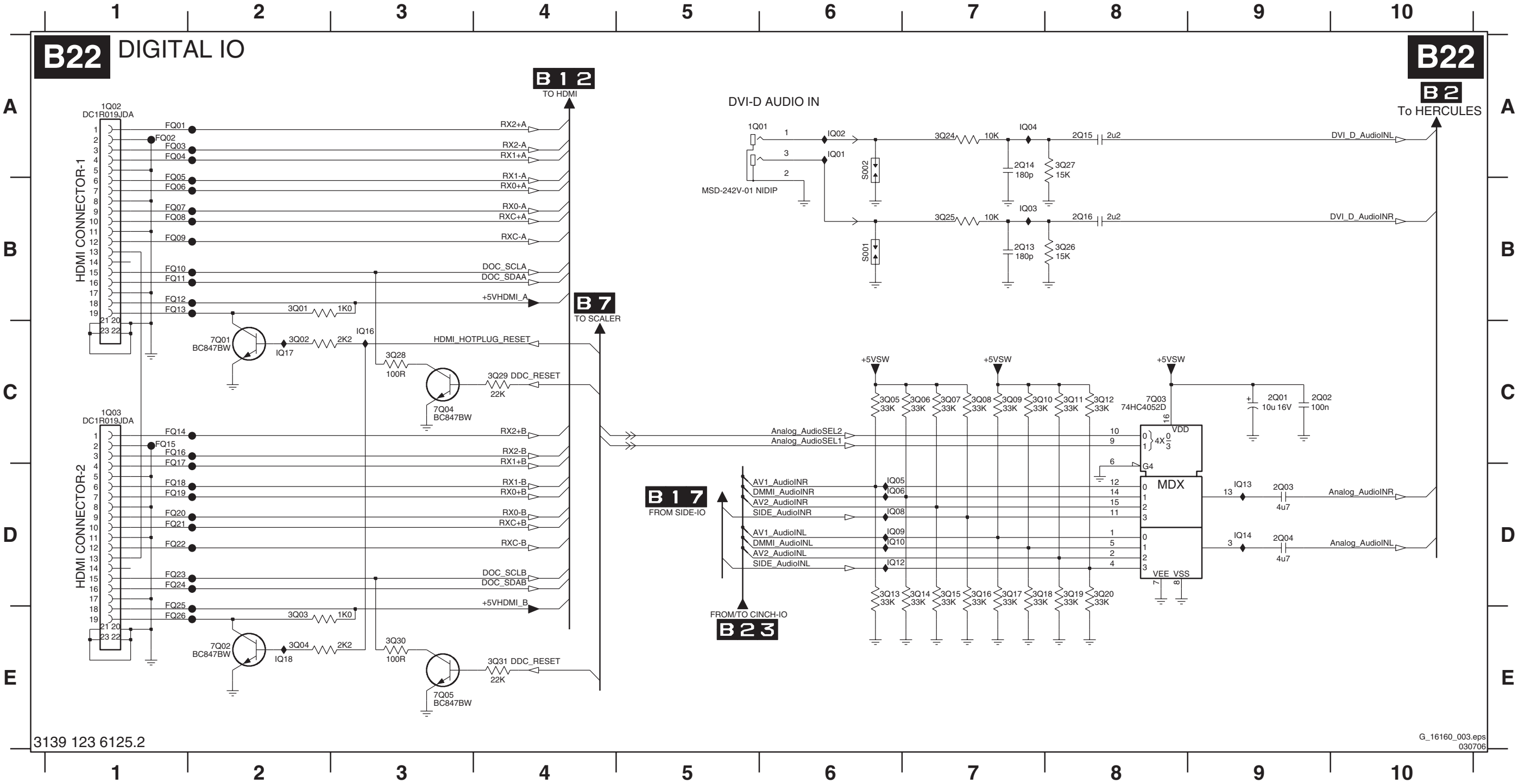
B20 PACIFIC 3

B20



SSB: Digital I/O

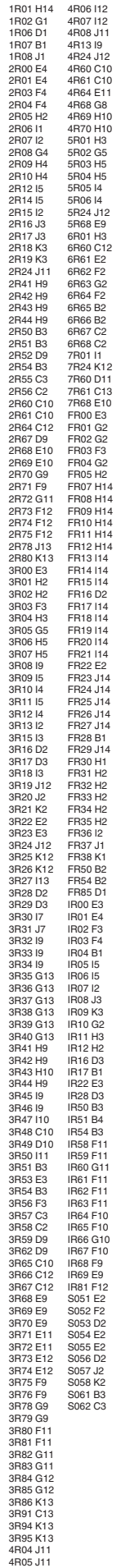
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1Q02 A1	2Q03 D9	2Q15 B8	3Q03 E2	3Q07 C7	3Q11 C8	3Q15 D7	3Q19 D8	3Q26 A8	3Q30 E3	7Q03 C8	FQ02 A1	FQ06 B1	FQ10 B1	FQ14 C1	FQ18 D1	FQ22 D1	FQ26 E1	IQ04 B7	IQ09 D6	IQ14 D9	S001 A6
1Q03 C1	2Q04 D9	2Q16 A8	3Q04 E2	3Q08 C7	3Q12 C8	3Q16 D7	3Q20 D8	3Q27 B8	3Q31 E4	7Q04 C3	FQ03 A1	FQ07 B1	FQ11 B1	FQ15 C1	FQ19 D1	FQ23 D1	IQ01 A6	IQ05 D6	IQ10 D6	IQ16 C3	S002 B6
2Q01 C9	2Q13 A7	3Q01 B2	3Q05 C6	3Q09 C7	3Q13 D6	3Q17 D7	3Q24 B7	3Q28 C3	7Q01 C2	7Q05 E3	FQ04 A1	FQ08 B1	FQ12 B1	FQ16 C1	FQ20 D1	FQ24 D1	IQ02 A6	IQ06 D6	IQ12 D6	IQ17 C2	



3139 123 6125.2

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B23 CINCH ANALOGUE IO (1FH)



SSB: Diversity Tables B9-B20

B09

Item Nr.		PDP 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	PDP DVB 42" - 50"	PDP DVB SDI	PDP SDI	Description
2A00	319801731040							CER2 0603 X7R 16V 100N COL
2A01	319803401010							CER1 0402 NP0 50V 100P COL
2A02	319803401010							CER1 0402 NP0 50V 100P COL
2A12	319803521030							CER2 0402 X7R 16V 10N COL
2A13	319803571040							CER2 0402 Y5V 16V 100N COL
2A14	319803521030							CER2 0402 X7R 16V 10N COL
3A00	319803106890							RST SM 0402 68R PM5 COL
3A01	319803106890							RST SM 0402 68R PM5 COL
3A02	319803101020							RST SM 0402 1K PM5 COL
3A07	319803101030							RST SM 0402 10K PM5 COL
3A08	319803101030							RST SM 0402 10K PM5 COL
3A10	319803101030							RST SM 0402 10K PM5 COL
3A11	319803101030							RST SM 0402 10K PM5 COL
3A13	319803101030							RST SM 0402 10K PM5 COL
3A14	319803104720							RST SM 0402 4K7 PM5 COL
3A15	319803103320							RST SM 0402 3K3 PM5 COL
3A16	319803101030							RST SM 0402 10K PM5 COL
4A03	319802190030							RST SM 0603 JUMP. 0R05 COL
4A04	319803190010							RST SM 0402 JUMP. 0R05 COL
4A05	319803190010							RST SM 0402 JUMP. 0R05 COL
4A06	319803190010							RST SM 0402 JUMP. 0R05 COL
5A00	319801890060							FXDIND 0805 100MHZ 30R COL R
7A00	935275998118							IC SM PCA9515ADP (PHSE) R
7A02	319801042310							TRA SIG SM BC847BW (COL) R
7A03	319801042310							TRA SIG SM BC847BW (COL) R
7A04	319801042310							TRA SIG SM BC847BW (COL) R

B13

Item Nr.		EU 10pg TXT	EU 1000pg TX	AP with TXT	AP non TXT	Description
2E04	202055200005					CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027					CER2 0603 X5R 6V3 4U7 PM10 R
2E05	202055200005					CER2 0603 X5R 6V3 4U7 PM10 R
2E06	202055200005					CER2 0603 X5R 6V3 4U7 PM10 R
2E15	319803571040					CER2 0402 Y5V 16V 100N COL
2E21	202055200005					CER2 0603 X5R 6V3 4U7 PM10 R
2E22	202055200005					CER2 0603 X5R 6V3 4U7 PM10 R
2E23	202055200005					CER2 0603 X5R 6V3 4U7 PM10 R
3E00	232270570569					RST SM 0402 RC31 56R PM5 R
3E01	232270570569					RST SM 0402 RC31 56R PM5 R
3E02	232270570569					RST SM 0402 RC31 56R PM5 R
3E13	319803103310					RST SM 0402 330R PM5 COL
	319803190010					RST SM 0402 JUMP. 0R05 COL
3E14	319803103310					RST SM 0402 330R PM5 COL
	319803190010					RST SM 0402 JUMP. 0R05 COL
3E15	319803103310					RST SM 0402 330R PM5 COL
	319803190010					RST SM 0402 JUMP. 0R05 COL
3E16	319803103310					RST SM 0402 330R PM5 COL
3E17	319803103310					RST SM 0402 330R PM5 COL
3E18	319803103310					RST SM 0402 330R PM5 COL
3E32	319803101010					RST SM 0402 100R PM5 COL
3E34	319803101010					RST SM 0402 100R PM5 COL
3E46	319803101010					RST SM 0402 100R PM5 COL
	319803101090					RST SM 0402 10R PM5 COL
4E10	319803101090					RST SM 0402 10R PM5 COL
4E11	319803101090					RST SM 0402 10R PM5 COL
5E02	242254945333					IND FXD 1206 EMI 100MHZ 120R R
5E03	242254945333					IND FXD 1206 EMI 100MHZ 120R R
6E01	319802052780					DIO REG SM BZX384-C2V7 COL R
6E03	319802052780					DIO REG SM BZX384-C2V7 COL R
7E02	932219956668					IC SM ADG781BCPZ (ANA0) R
7E03	319801071090					IC SM 74HC4053D (COL) R
7E04	319801070740					IC SM 74LCX14T (COL) R
	935260739118					IC SM 74LVC14APW (PHSE) R
7E05	319801070740					IC SM 74LCX14T (COL) R
	935260739118					IC SM 74LVC14APW (PHSE) R

B15AB

Item Nr.		Non DVB	With DVB	Description
1G03	242202518872			CON H 32P F 0.50 SM FPC 0.3 R
2G31	202055200005			CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G32	319801741050			CER2 0603 Y5V 10V 1U COL
	319803041090			ELCAP SM 16V 10U PM20 COL R
2G35	319803571040			CER2 0402 Y5V 16V 100N COL
2G36	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G37	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G38	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G39	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G40	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G41	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G45	319801731020			CER2 0603 X7R 50V 1N COL
	319803501020			CER2 0402 X7R 50V 1N COL
2G48	319801741050			CER2 0603 Y5V 10V 1U COL
2G49	319801741050			CER2 0603 Y5V 10V 1U COL
2G50	319803041090			ELCAP SM 16V 10U PM20 COL R
2G51	319803571040			CER2 0402 Y5V 16V 100N COL
2G52	202055296703			CER1 0402 NP0 50V 180P PM5 R
2G53	202055296703			CER1 0402 NP0 50V 180P PM5 R
2G62	202055200035			CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183			CER2 0603 X5R 6V3 2U2 PM10 R
2G63	202055200035			CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183			CER2 0603 X5R 6V3 2U2 PM10 R
2G65	202055200005			CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G66	202055200005			CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
2G72	202055200005			CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027			CER2 0603 X5R 6V3 4U7 PM10 R
3G40	319803101010			RST SM 0402 100R PM5 COL
3G41	319803101010			RST SM 0402 100R PM5 COL
3G42	319803104730			RST SM 0402 47K PM5 COL
3G43	319803104730			RST SM 0402 47K PM5 COL
3G44	319803101020			RST SM 0402 1K PM5 COL
3G45	319803104730			RST SM 0402 47K PM5 COL
3G46	319803101020			RST SM 0402 1K PM5 COL
3G47	319803104730			RST SM 0402 47K PM5 COL
3G48	319803106890			RST SM 0402 68R PM5 COL
3G49	319803101020			RST SM 0402 1K PM5 COL
3G50	319803106890			RST SM 0402 68R PM5 COL
3G51	319803101020			RST SM 0402 1K PM5 COL
3G52	319803101020			RST SM 0402 1K PM5 COL
3G53	319803104730			RST SM 0402 47K PM5 COL
3G54	319803101020			RST SM 0402 1K PM5 COL
3G55	319803104730			RST SM 0402 47K PM5 COL
3G56	319803101010			RST SM 0402 100R PM5 COL
3G60	319803104720			RST SM 0402 4K7 PM5 COL
3G61	319803104730			RST SM 0402 47K PM5 COL
3G62	319803104730			RST SM 0402 47K PM5 COL
3G63	319803101010			RST SM 0402 100R PM5 COL
3G64	319803101010			RST SM 0402 100R PM5 COL
3G65	319803104730			RST SM 0402 47K PM5 COL
3G66	319803104730			RST SM 0402 47K PM5 COL
3G67	319803104730			RST SM 0402 47K PM5 COL
3G68	319803104730			RST SM 0402 47K PM5 COL
3G69	319803104730			RST SM 0402 47K PM5 COL
3G70	319803104730			RST SM 0402 47K PM5 COL
3G71	319803101010			RST SM 0402 100R PM5 COL
3G80	319803106890			RST SM 0402 68R PM5 COL
3G81	319803101020			RST SM 0402 1K PM5 COL
3G83	319803101030			RST SM 0402 10K PM5 COL
3G84	319803101030			RST SM 0402 10K PM5 COL
3G85	319803104730			RST SM 0402 47K PM5 COL
3G86	319803104730			RST SM 0402 47K PM5 COL
3G87	319803104730			RST SM 0402 47K PM5 COL
3G88	319803101020			RST SM 0402 1K PM5 COL
3G89	319803104730			RST SM 0402 47K PM5 COL
3G90	319803101020			RST SM 0402 1K PM5 COL
3G91	319803101020			RST SM 0402 1K PM5 COL
3G92	319803102230			RST SM 0402 22K PM5 COL

B16

Item Nr.		LCD 37" - 42"	LCD 26" - 32"	PDP 42" - 50"	Description
1J00	242202510771				CON V 10P M 2.00 PH B
1J01	242202510655				CON V 11P M 2.00 PH B
1J02	242202510772				CON V 12P M 2.00 PH B
1J03	242202510768				CON V 3P M 2.00 PH B
1J07	242208611081				FUSE SM T 3A 125V UL R
1J08	242254945333				IND FXD 1206 EMI 100MHZ 120R R
2J18	319803401010				CER1 0402 NP0 50V 100P COL
2J19	319803401010				CER1 0402 NP0 50V 100P COL
2J22	319803401010				CER1 0402 NP0 50V 100P COL
2J23	319803401010				CER1 0402 NP0 50V 100P COL
2J31	319803401010				CER1 0402 NP0 50V 100P COL
3J03	319803106890				RST SM 0402 68R PM5 COL
3J04	319803106890				RST SM 0402 68R PM5 COL
4J01	319803190010				RST SM 0402 JUMP. 0R05 COL
5J04	242254945333				IND FXD 1206 EMI 100MHZ 120R R

B17

Item Nr.		26in - 32in	37in - 50in	Description
1K01	242202510772			CON V 12P M 2.00 PH B
1K04	242202510655			CON V 11P M 2.00 PH B
2K15	319803401010			CER1 0402 NP0 50V 100P COL
3K08	319803106890			RST SM 0402 68R PM5 COL
4K02	319802190030			RST SM 0603 JUMP. 0R05 COL

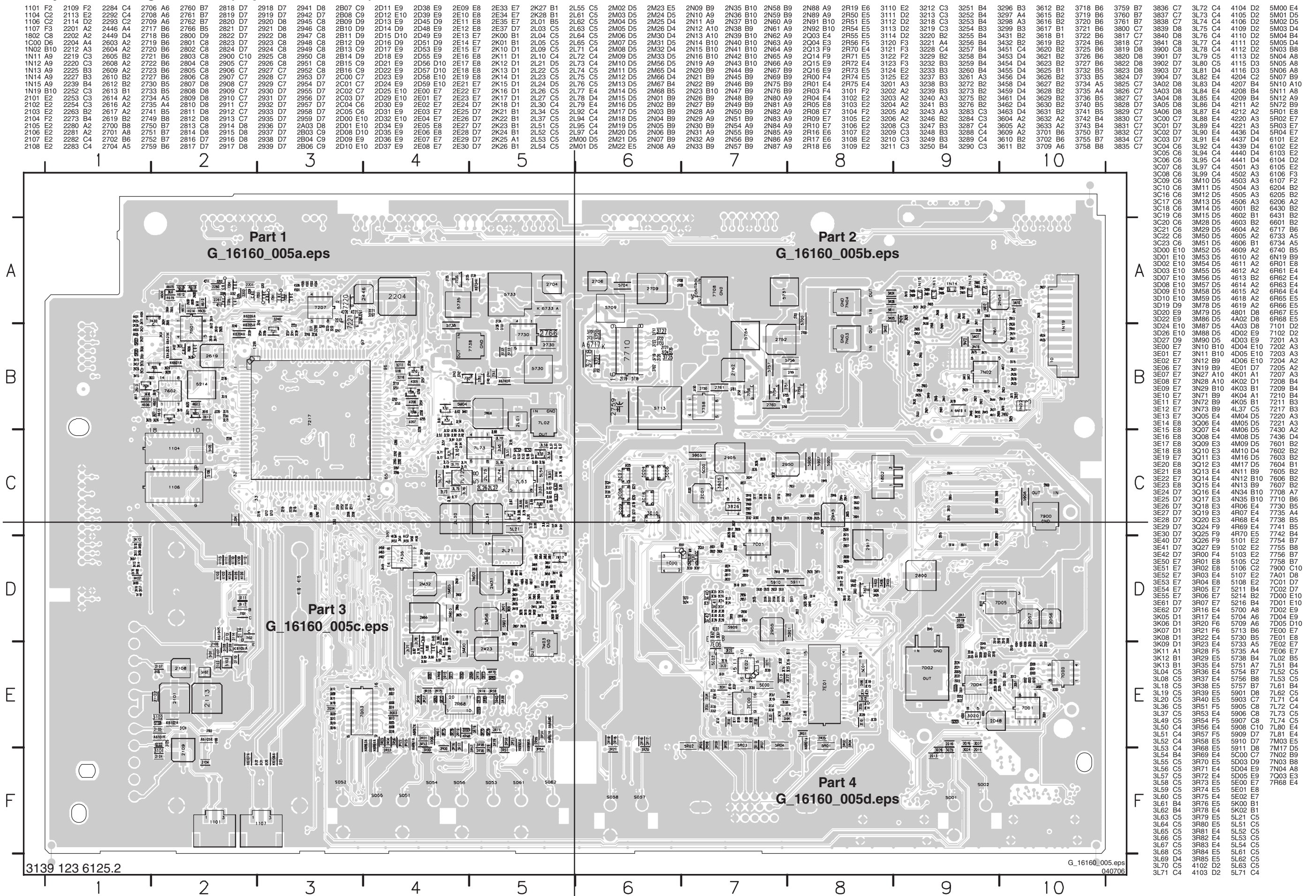
B20 LVDS Conn.

Item Nr.		PDP LG	LCD 37" - 42"	LCD 26" - 32"	PDP FHP	PDP SDI	Description
1N16	242202518772						CON V 30P M 1.25 SM 1453230 R
1N17	242202518427						CON H 31P F 1.25 SM FI-WE R
2N90	319803571030						CER2 0402 Y5V 16V 10N COL
3N30	319803101030						RST SM 0402 10K PM5 COL
3N31	319803104720						RST SM 0402 4K7 PM5 COL
3N80	319803101010						RST SM 0402 100R PM5 COL
3N81	319803101010						RST SM 0402 100R PM5 COL
4N24	319803190010						RST SM 0402 JUMP. 0R05 COL
4N26	319803190010						RST SM 0402 JUMP. 0R05 COL
4N36	319803190010						RST SM 0402 JUMP. 0R05 COL
4N37	319803190010						RST SM 0402 JUMP. 0R05 COL
7N05	319801042310						TRA SIG SM BC847BW (COL) R

B20 Pac-3

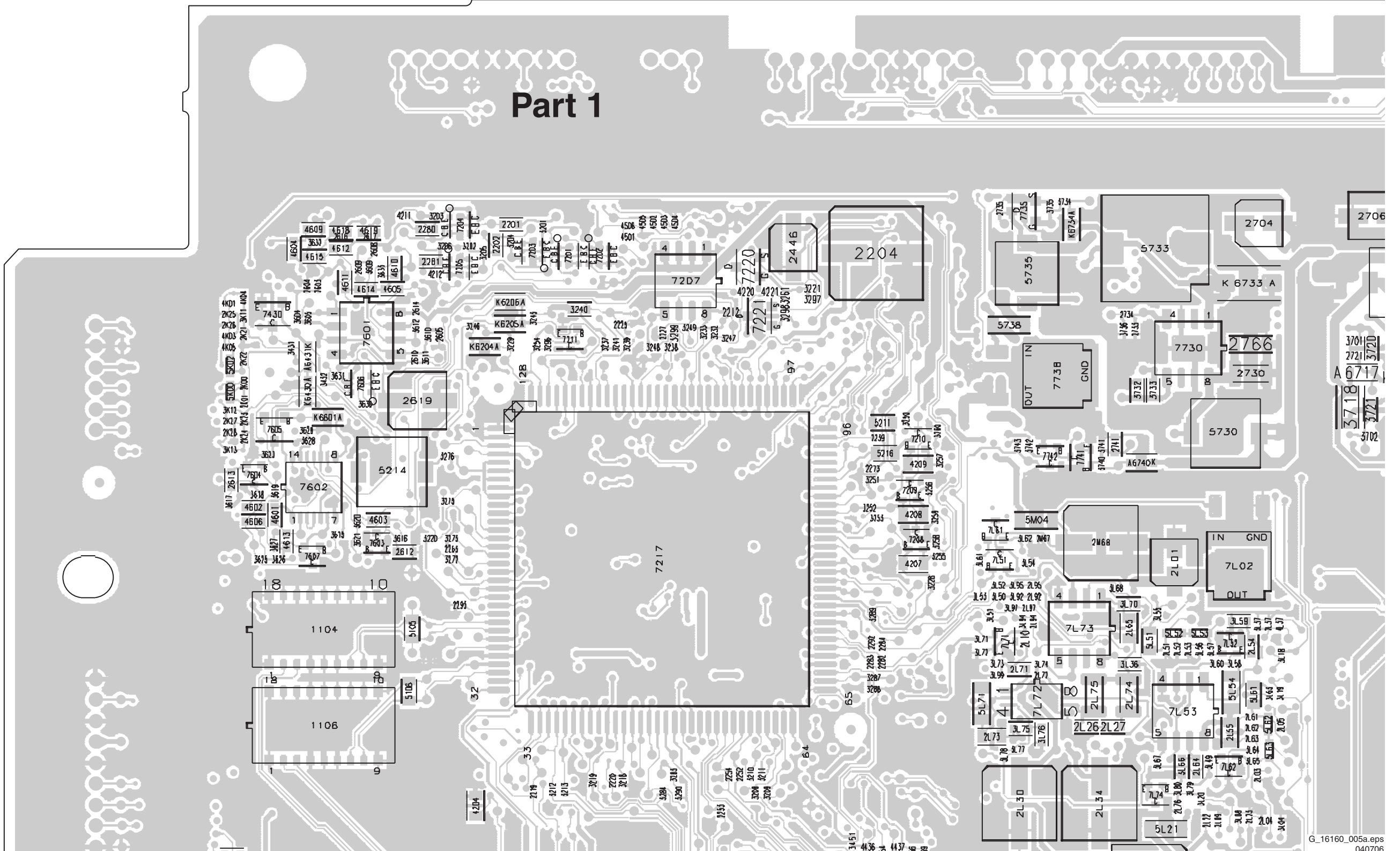
Item Nr.		With Pixel Plus (Pac)	Non Pixel Plus	Description
1N02	242254000017	<input checked="" type="checkbox"/>	<input type="checkbox"/>	R
1N03	242202518779	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CON V 4P M 2.00 SM PH R
1N04	242202518196	<input type="checkbox"/>	<input type="checkbox"/>	CON V 4P M 2.00 SM PH R
	242202518779	<input type="checkbox"/>	<input type="checkbox"/>	CON V 4P M 2.00 SM PH R
1N05	242212802975	<input type="checkbox"/>	<input type="checkbox"/>	SWI TACT SM H=0.5 160G SKQR R
1N19	242202518734	<input type="checkbox"/>	<input type="checkbox"/>	CON V 10P M 2.00 SM PH R
2N01	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N02	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N03	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N04	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N05	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N06	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N07	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N08	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N09	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N10	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N11	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N12	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N13	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N14	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N15	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N16	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N17	319803024790	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ELCAP SM 6V3 47U PM20 COL R
2N19	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N20	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N21	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N22	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N23	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N24	319803024790	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ELCAP SM 6V3 47U PM20 COL R
2N25	319803024790	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ELCAP SM 6V3 47U PM20 COL R
2N26	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N27	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N28	202055200005	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0603 X5R 6V3 4U7 PM10 R
2N29	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N30	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N31	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N32	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N33	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N35	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N36	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N37	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N38	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N39	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N40	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N41	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N42	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N43	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N44	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N45	319803571040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N46	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N47	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N48	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N49	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N50	319803571040	<input type="checkbox"/>	<input type="checkbox"/>	CER2 0402 Y5V 16V 100N COL
2N51	319803024790	<input type="checkbox"/>	<input type="checkbox"/>	ELCAP SM 6V3 47U PM20 COL R
2N54	319803074780	<input type="checkbox"/>	<input type="checkbox"/>	ELCAP SM 35V 4U7 PM20 COL R

Layout Small Signal Board (Top Side Overview)

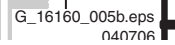


5

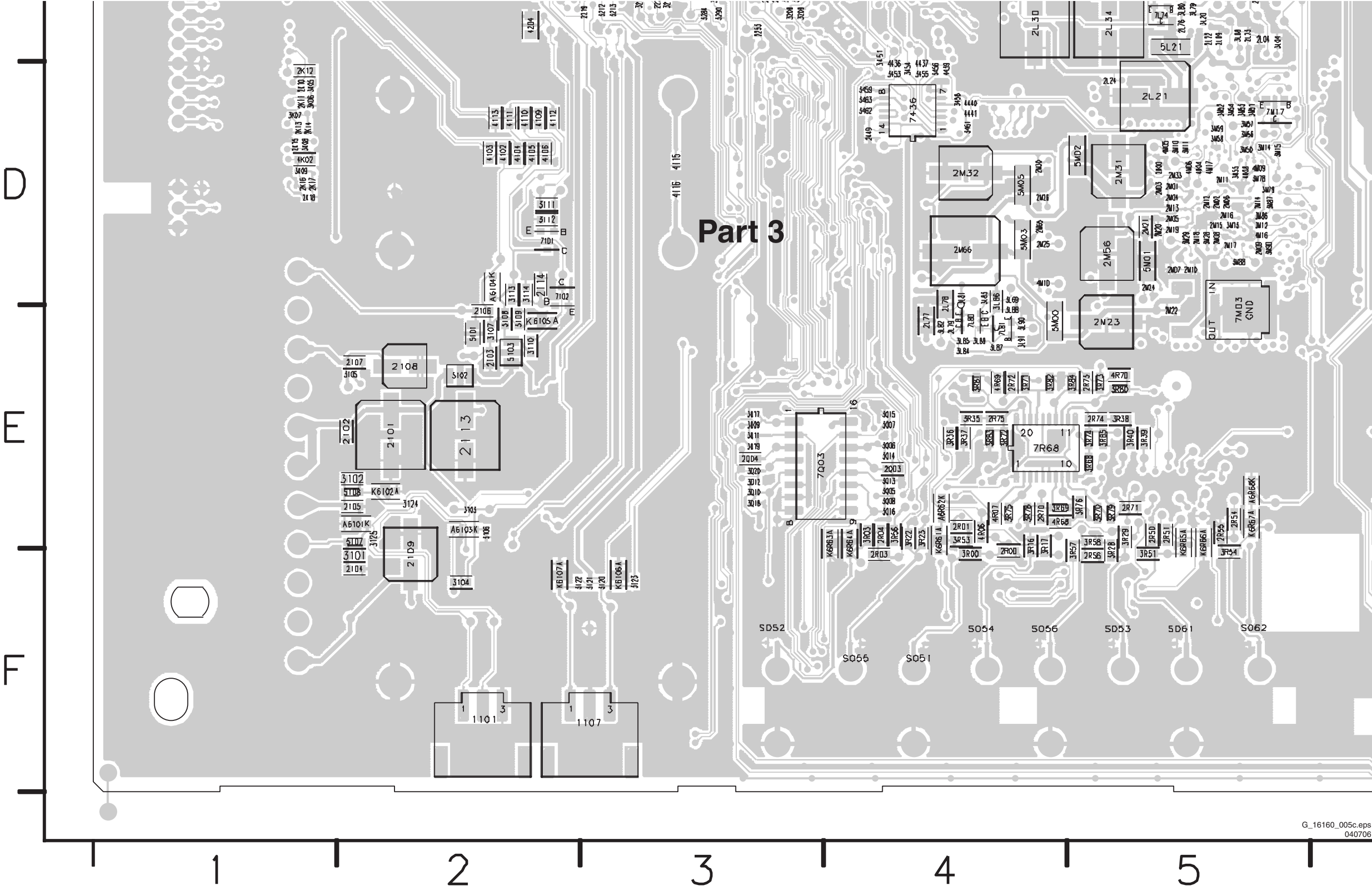
C



10



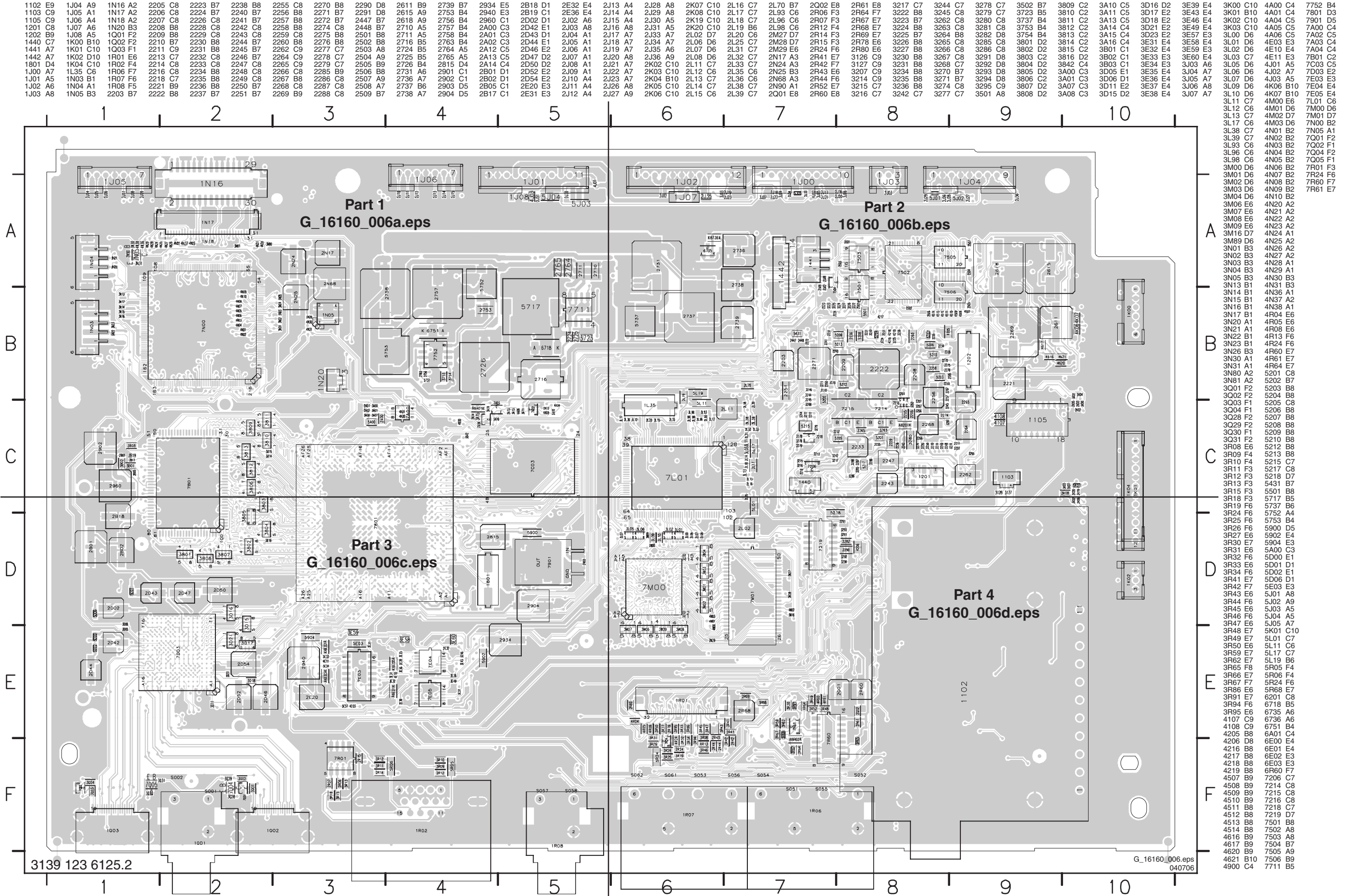
Layout Small Signal Board (Top Side Part 3)



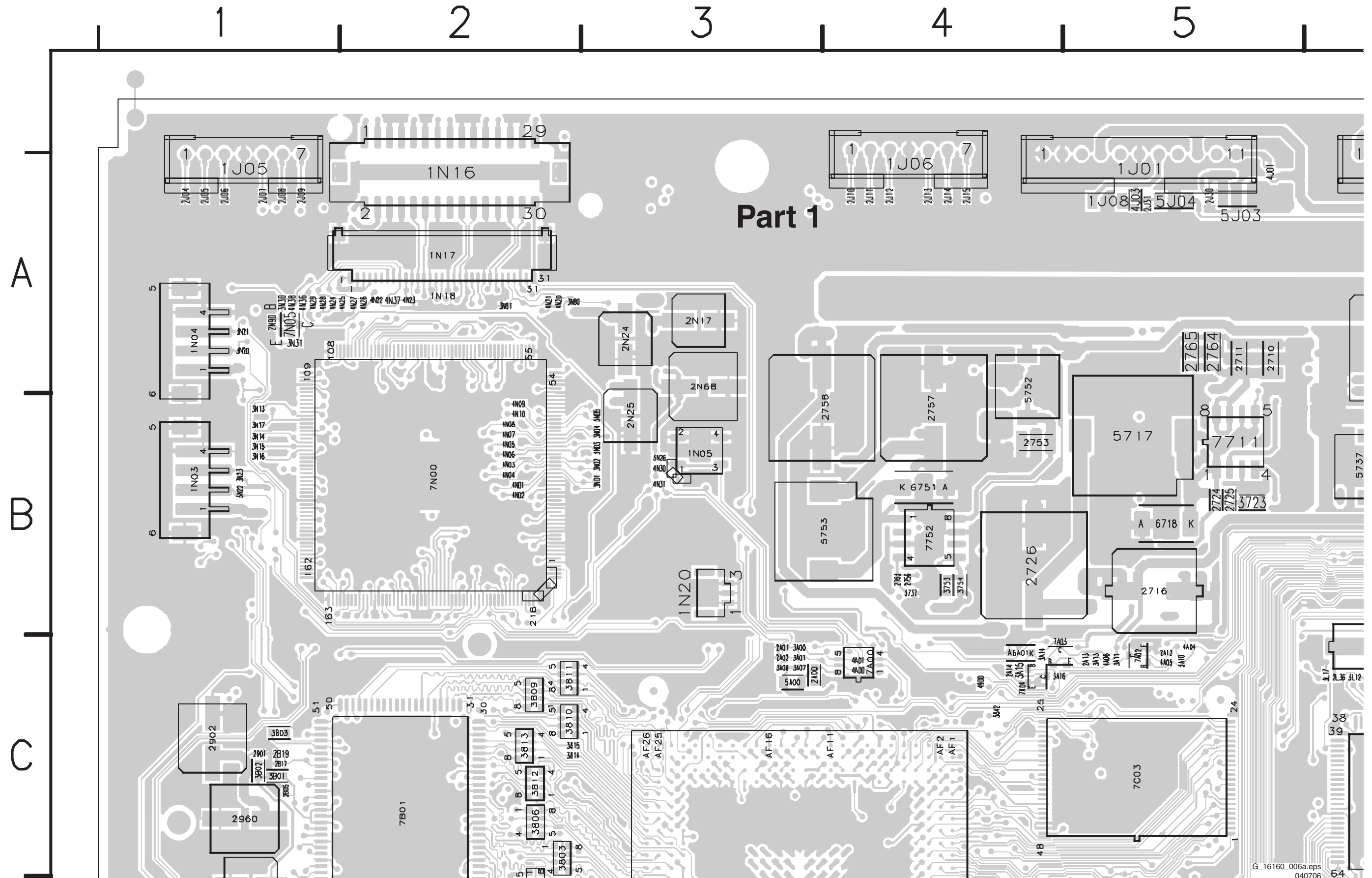
G_16160_005d.eps
040706

10

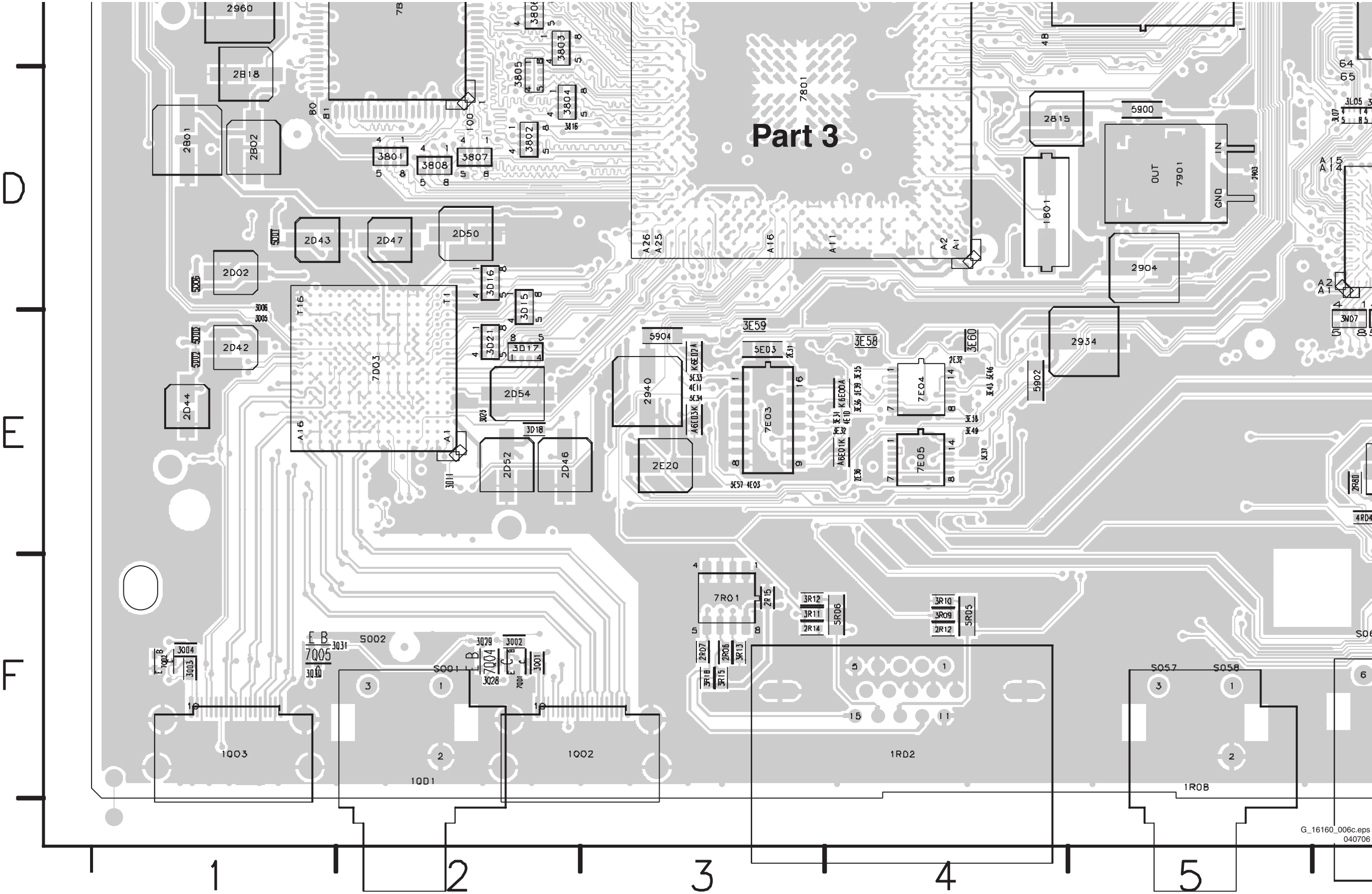
Layout Small Signal Board (Bottom Side Overview)



Layout Small Signal Board (Bottom Side Part 1)



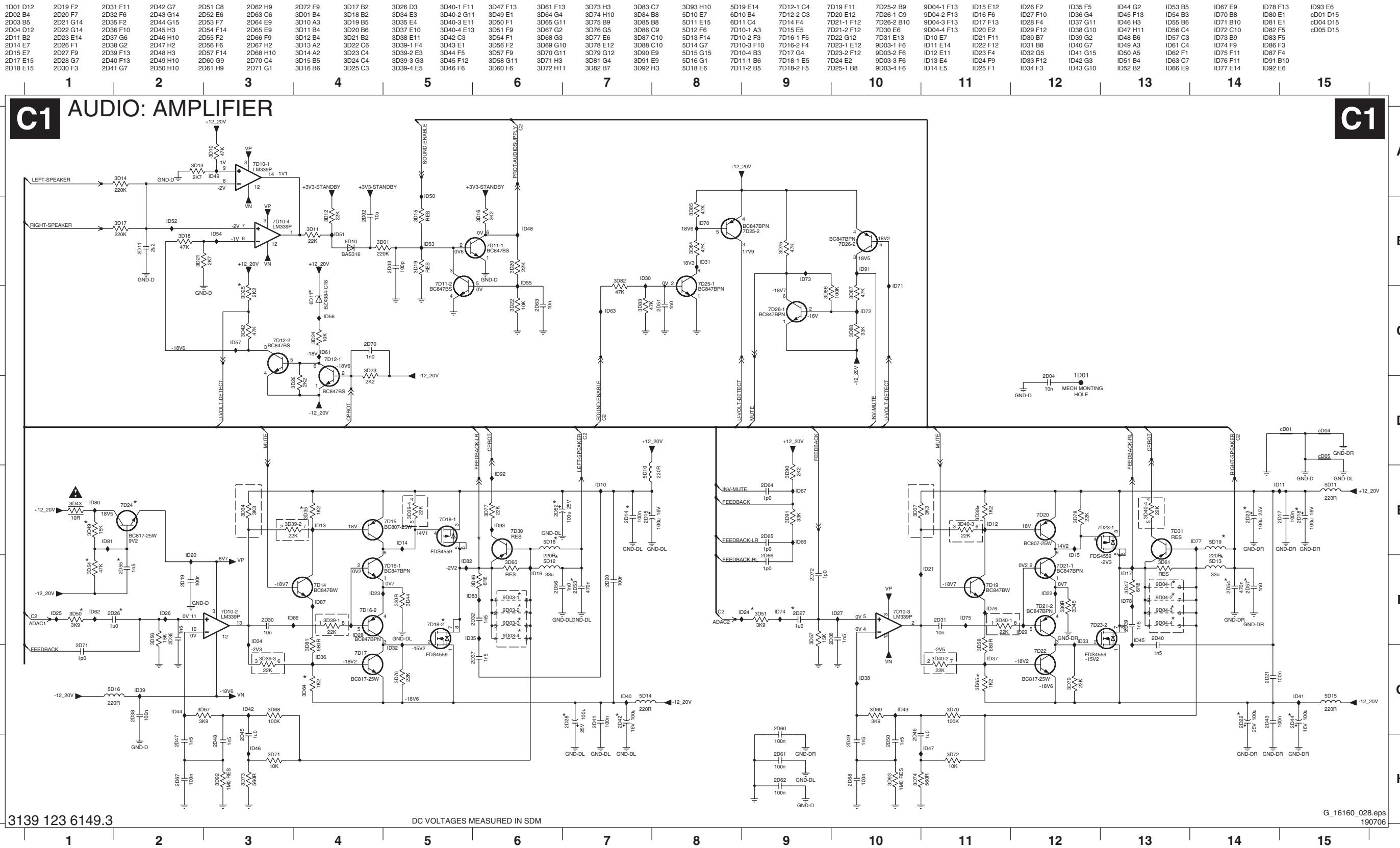
Layout Small Signal Board (Bottom Side Part 3)



Part 4

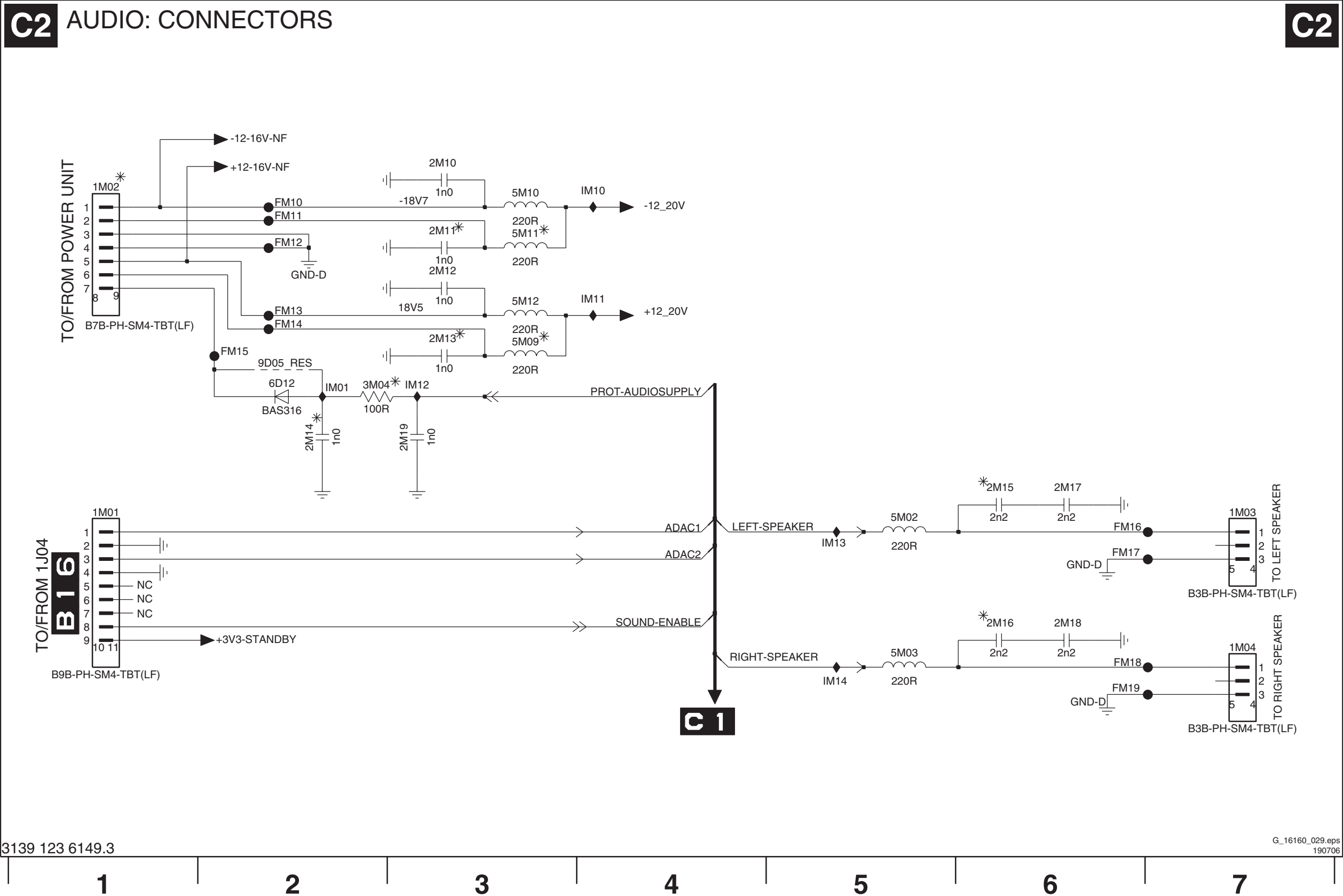
G_16160_006d.eps
040706

Audio Amplifier Panel: Amplifier



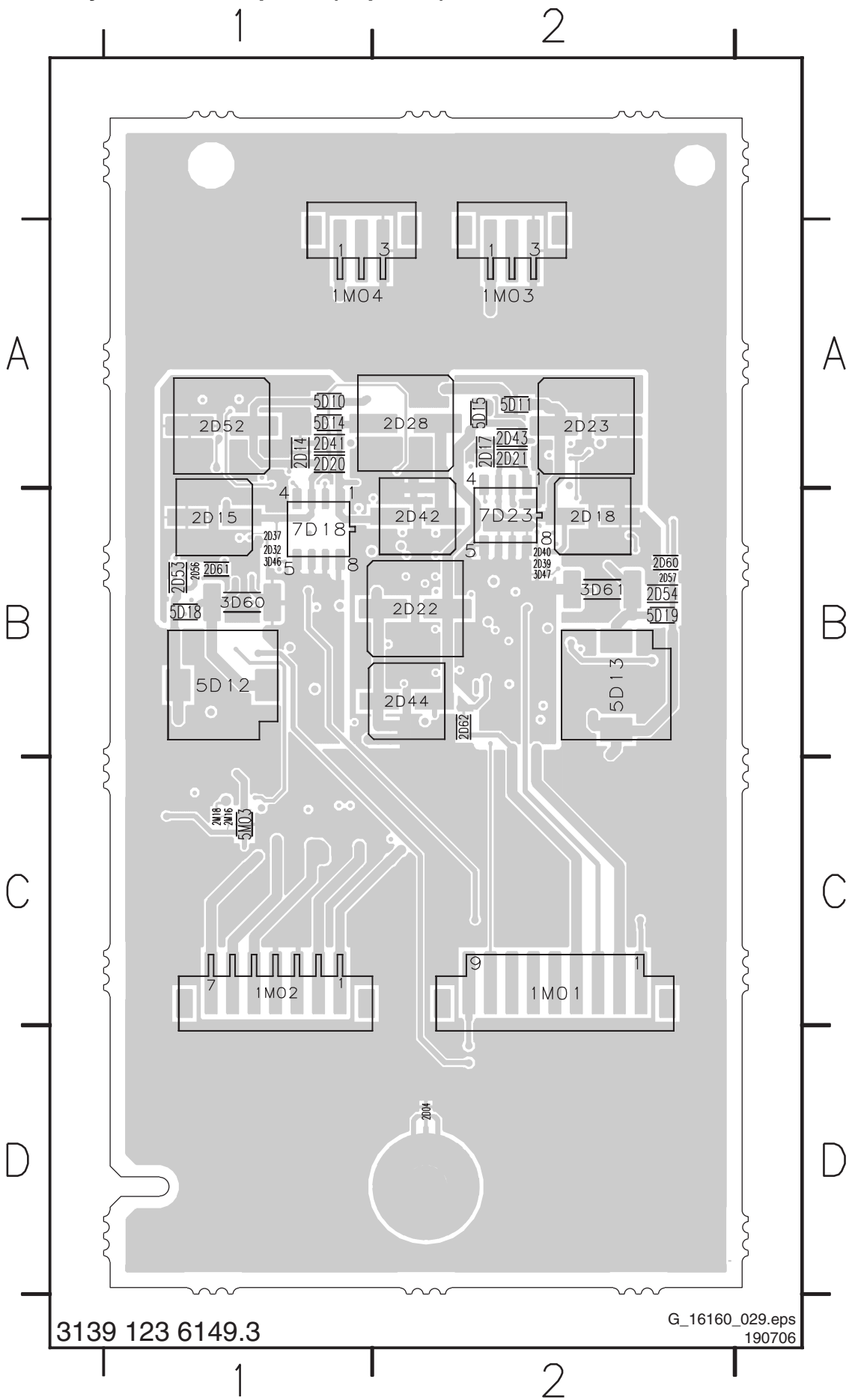
Audio Amplifier Panel: Connectors

C2 AUDIO: CONNECTORS



Layout Audio Amplifier (Top Side)

Layout Audio Amplifier (Bottom Side)

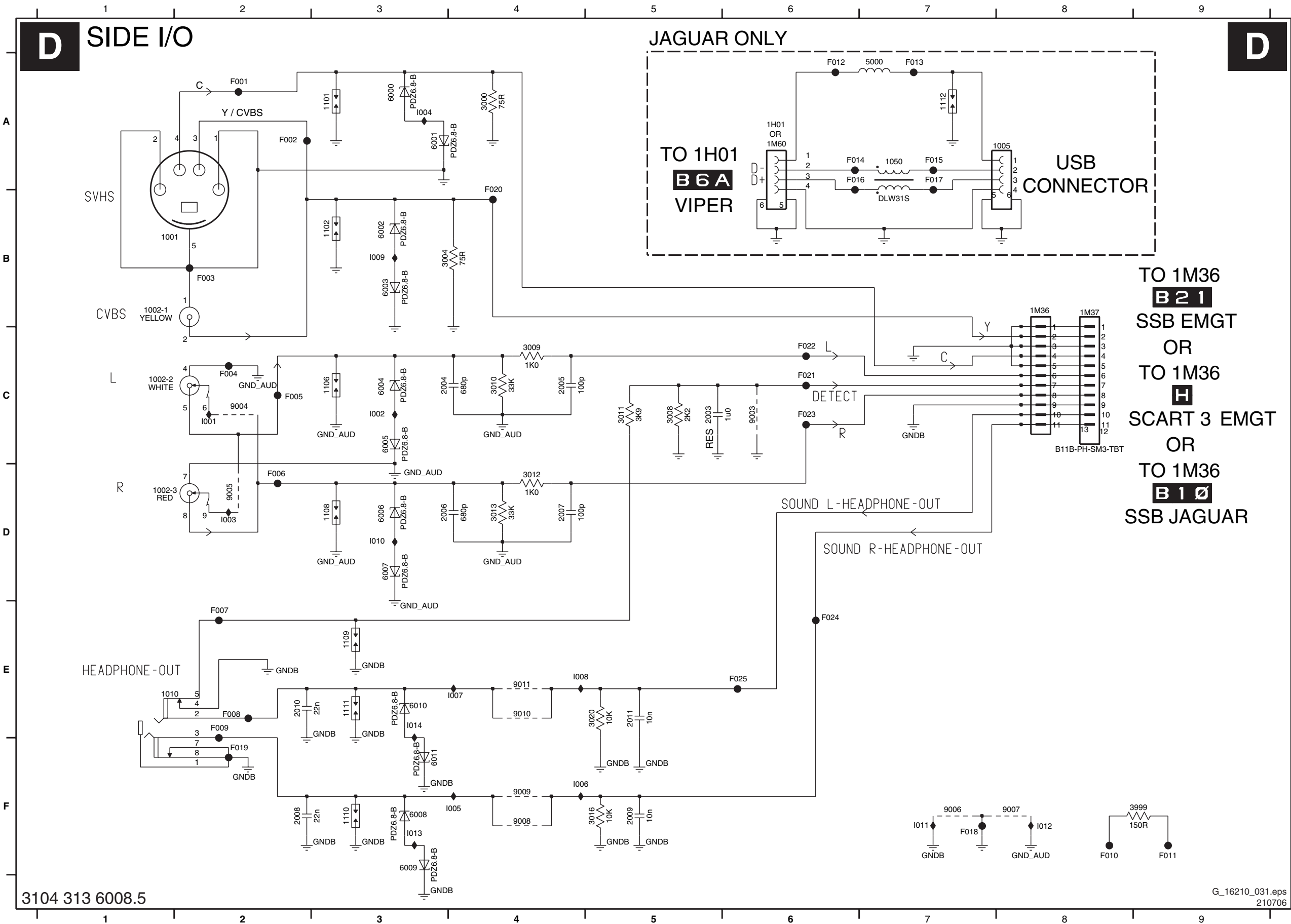


- 1M01 C2
- 1M02 C1
- 1M03 A2
- 1M04 A1
- 2D04 D2
- 2D14 A1
- 2D15 B1
- 2D17 A2
- 2D18 B2
- 2D20 A1
- 2D21 A2
- 2D22 B2
- 2D23 A2
- 2D28 A2
- 2D32 B1
- 2D37 B1
- 2D39 B2
- 2D40 B2
- 2D41 A1
- 2D42 B2
- 2D43 A2
- 2D44 B2
- 2D52 A1
- 2D53 B1
- 2D54 B2
- 2D56 B1
- 2D57 B2
- 2D60 B2
- 2D61 B1
- 2D62 B2
- 2M16 C1
- 2M18 C1
- 3D46 B1
- 3D47 B2
- 3D60 B1
- 3D61 B2
- 5D10 A1
- 5D11 A2
- 5D12 B1
- 5D13 B2
- 5D14 A1
- 5D15 A2
- 5D18 B1
- 5D19 B2
- 5M03 C1
- 7D18 B1
- 7D23 B2



- 2D02 B2
- 2D03 B2
- 2D11 B1
- 2D19 B1
- 2D26 B2
- 2D27 B1
- 2D30 A2
- 2D31 B1
- 2D35 B2
- 2D36 B1
- 2D38 B1
- 2D45 B2
- 2D46 B1
- 2D47 B2
- 2D48 B2
- 2D49 B1
- 2D50 B1
- 2D51 B1
- 2D55 A1
- 2D63 B2
- 2D64 B1
- 2D65 B1
- 2D66 B1
- 2D67 B2
- 2D68 B1
- 2D70 B1
- 2D71 B2
- 2D72 B1
- 2M10 C1
- 2M11 C2
- 2M12 C2
- 2M13 C2
- 2M14 C2
- 2M15 C2
- 2M17 C2
- 2M19 C2
- 3D01 B2
- 3D10 B1
- 3D11 B2
- 3D12 B2
- 3D13 B1
- 3D14 B1
- 3D15 B2
- 3D16 B2
- 3D17 B1
- 3D18 B1
- 3D19 B2
- 3D20 B2
- 3D21 B1
- 3D22 B2
- 3D23 B1
- 3D24 B2
- 3D25 B1
- 3D26 B1
- 3D34 A2
- 3D35 A2
- 3D37 B1
- 3D38 A1
- 3D39 A2
- 3D40 B1
- 3D42 B1
- 3D43 A1
- 3D44 A2
- 3D45 B1
- 3D49 A1
- 3D50 B2
- 3D51 B1
- 3D54 A1
- 3D56 B2
- 3D57 B1
- 3D58 A1
- 3D64 A2
- 3D65 A1
- 3D67 B2
- 3D68 B2
- 3D69 B1
- 3D70 B1
- 3D71 B2
- 3D72 B1
- 3D73 B2
- 3D74 B1
- 3D75 B1
- 3D76 A2

Side I/O Panel

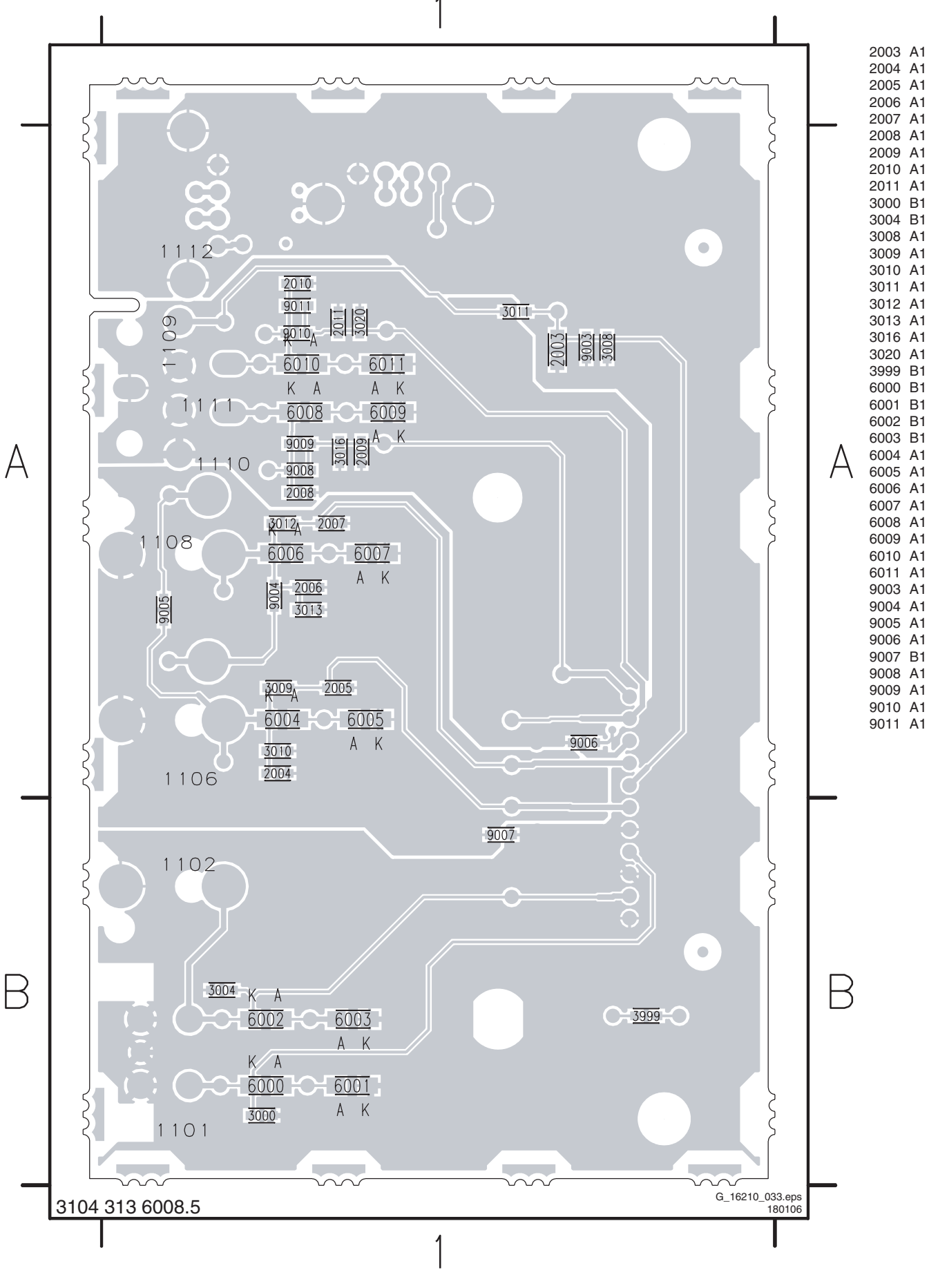
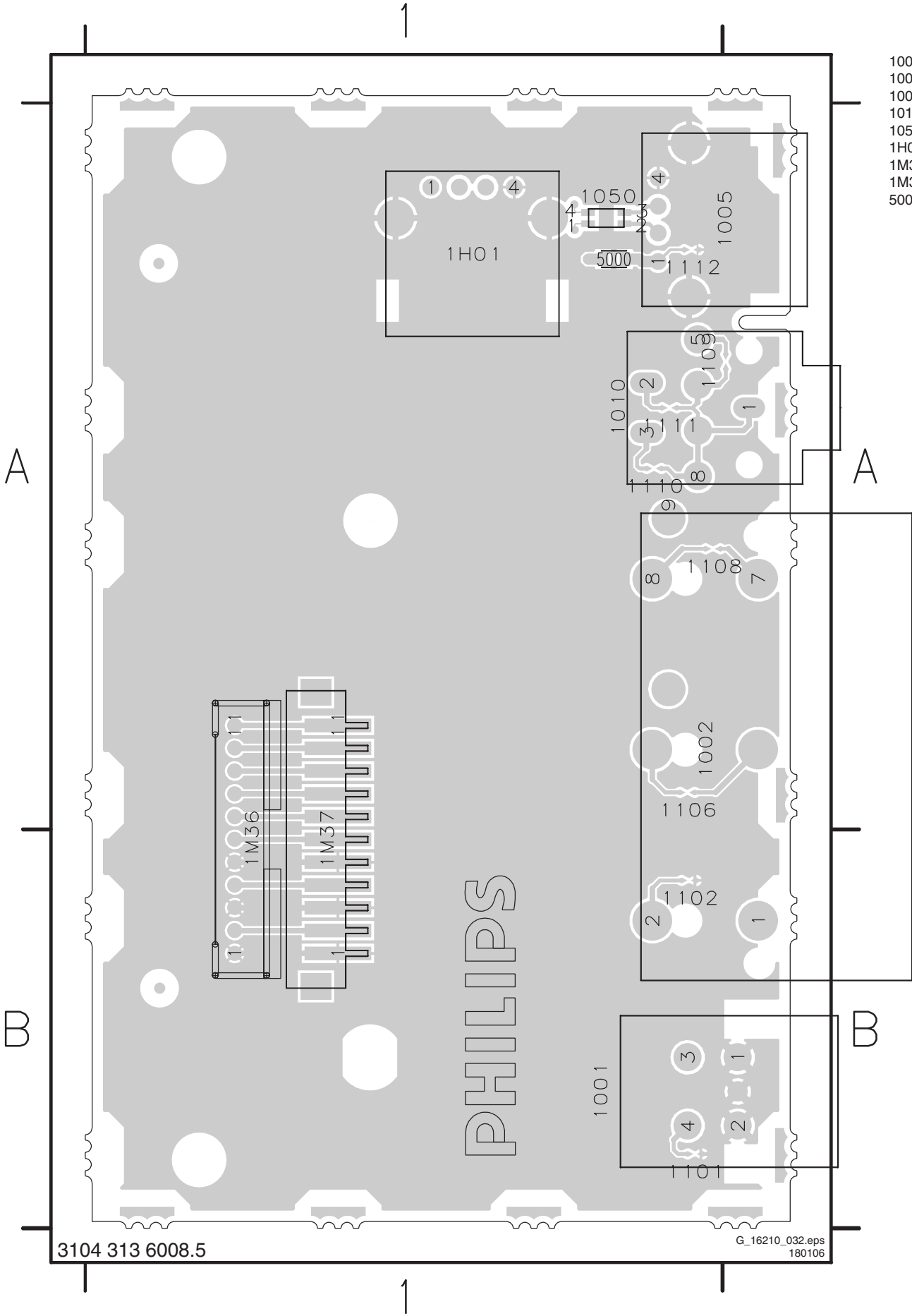


3104 313 6008.5

G_16210_031.eps
210706

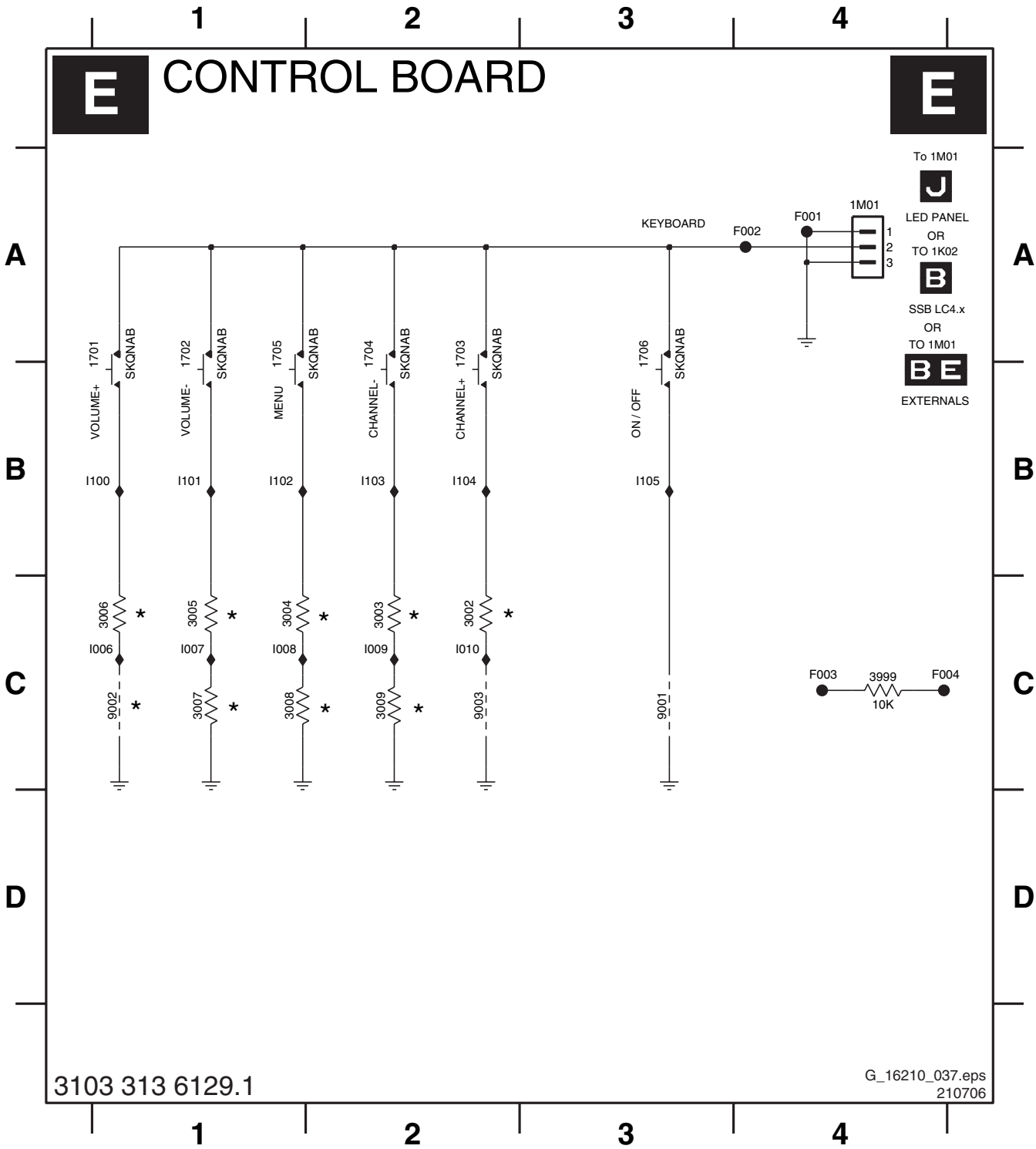
Layout Side I/O Panel (Top Side)

Layout Side I/O Panel (Bottom Side)

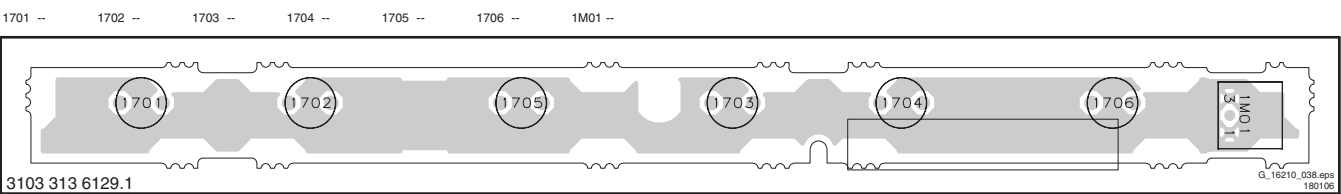


Keyboard Control Board

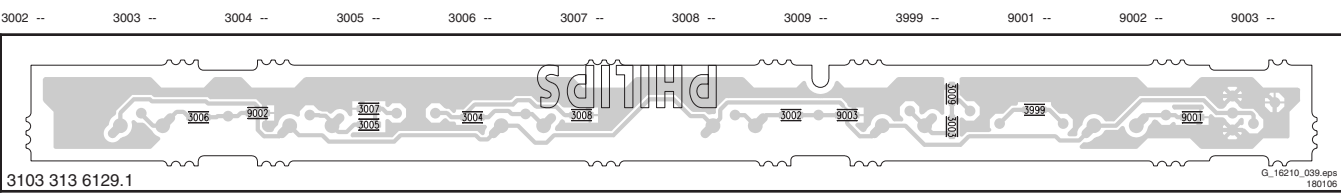
1701 A1	1704 A2	1M01 A4	3004 C1	3007 C1	3999 C4	9003 C2	F003 C4	I007 C1	I010 C2	I102 B1	I105 B3
1702 A1	1705 A1	3002 C2	3005 C1	3008 C1	9001 C3	F001 A4	F004 C4	I008 C1	I100 B1	I103 B2	
1703 A2	1706 A3	3003 C2	3006 C1	3009 C2	9002 C1	F002 A4	I006 C1	I009 C2	I101 B1	I104 B2	



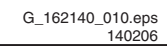
Layout Keyboard Control Board (Top Side)



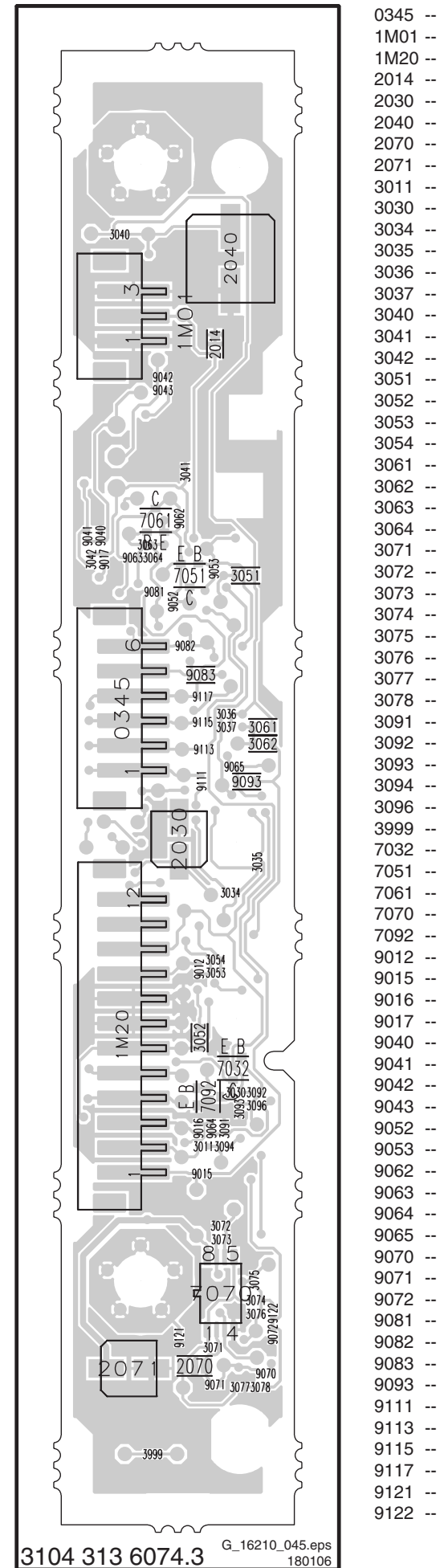
Layout Keyboard Control Board (Bottom Side)



LED PANEL



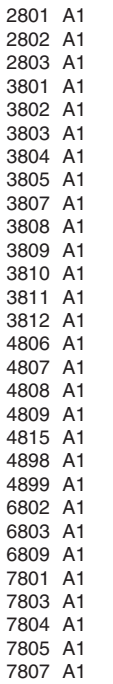
Layout Front IR / LED Panel (42") (Bottom Side)



↑



1



8. Alignments

Index of this chapter:

- 8.1 General Alignment Conditions
- 8.2 Hardware Alignments
- 8.3 Software Alignments

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

General: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 90-276 V / 50/60 Hz.
Allow the set to warm up for approximately 10 minutes.
Test probe: $R_i > 10 \text{ M}\Omega$; $C_i < 2.5 \text{ pF}$.

8.2 Hardware Alignments

There are no hardware alignments foreseen for these models.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the geometry, white tone and tuner (IF) can be aligned. To store the data: Use the RC button Menu to switch to the main menu and next, switch to 'Stand-by' mode.

8.3.1 SAM Menu

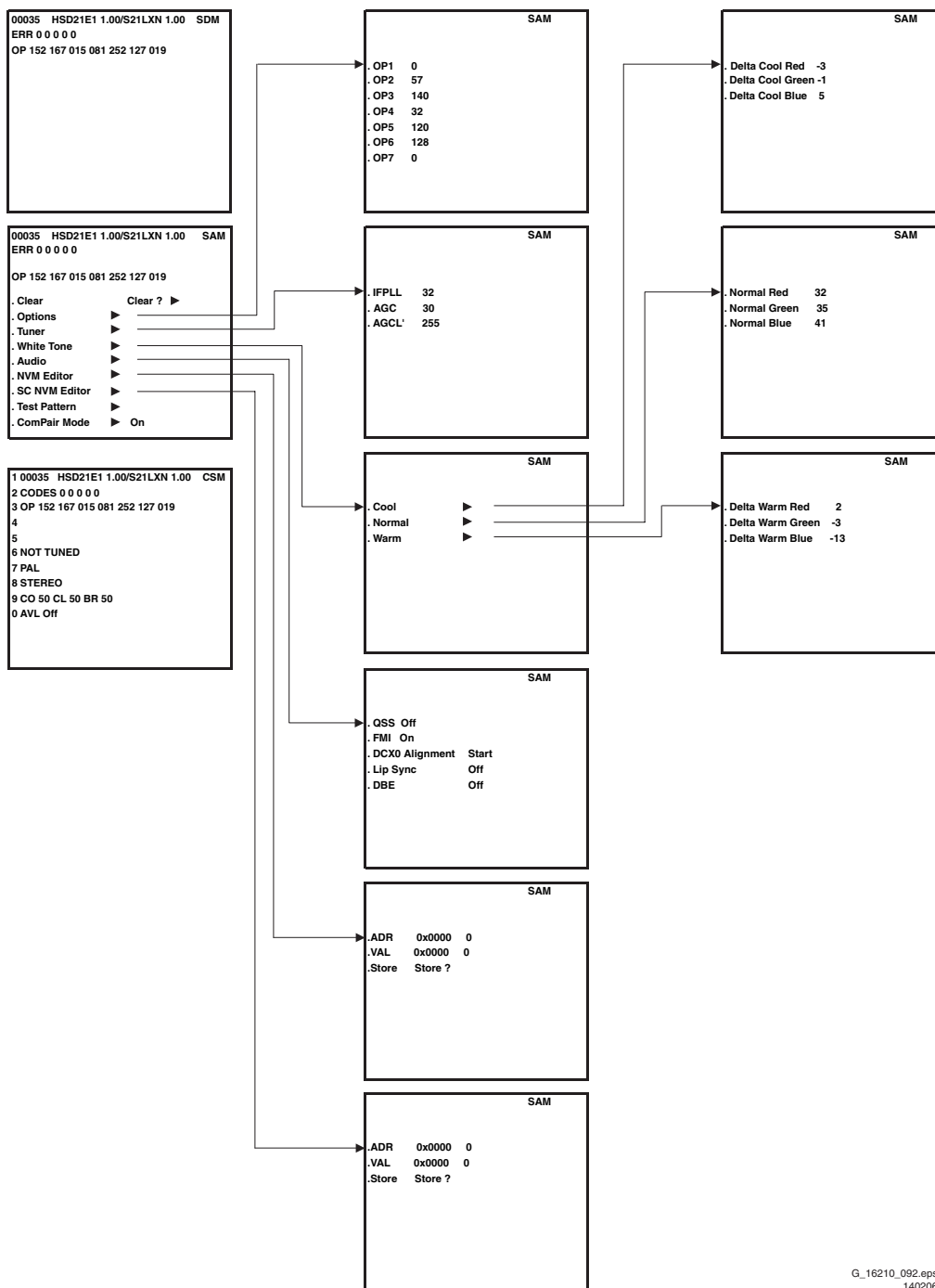
G_16210_092.eps
140206

Figure 8-1 Overview SAM menu (the values are indicative).

8.3.2 Tuner Adjustment

AGC (RF AGC Take Over Point)

- Activate the SAM menu.
- Go to the sub-menu Tuner.
- Select the AGC sub-menu.
- Adjust the AGC value to AGC = 27.
- Adjust the AGC L' value to AGC L' = 27 (Europe only).
- Adjust the IFPLL value to IFPLL = 32 (Europe only).
- Switch the set to standby to store the data.

8.3.3 DCXO (Digital Xtal Oscillator) Alignment (for NICAM sets only)

- Input a Colour bar signal with a colour subcarrier frequency of 4.43 MHz on AV1 or CVI-1.
- Select as a signal source EXT1 or AV1.
- Go to the SAM menu and select Audio.
- Activate DCXO Alignment and wait until this process has finished (DONE).
- Check if the NICAM audio reception is OK, if not: repeat the procedure.
- Switch the set to standby to store the data.

8.3.4 ADC Gain and Grey Scale Alignment

The table below shows a number of NVM settings used for each model of TV set. Be sure to use the correct editor in the SAM menu (NVM Editor or SC NVM Editor), because the first one is used for the Hercules NVM, and the second one for the SCALER (SC) part of the TV set. For further important NVM settings, see also the other NVM tables elsewhere in this manual.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-1 ADC gain and grey scale alignment

SDTV ADC Gain settings: Use the NVM Editor in SAM to set these values in the Hercules NVM		
Setting	Hercules NVM Address (decimal value)	all sets
NVM_ADC_GAIN_R	006	135
NVM_ADC_GAIN_G	007	185
NVM_ADC_GAIN_B	008	145

SDTV Greyscale settings: Use the SC NVM Editor in SAM to set these values in the Scaler NVM		
Setting	Scaler NVM Address (decimal value)	all sets
ADC_RED_OFFSET2	338	070
ADC_GRN_OFFSET2	339	070
ADC_BLU_OFFSET2	340	070
ADC_RED_GAIN	341	150
ADC_GRN_GAIN	343	150
ADC_BLU_GAIN	345	150
PC Greyscale settings		
Setting	Scaler NVM Address (decimal value)	all sets
ADC_RED_OFFSET2	325	070
ADC_GRN_OFFSET2	326	070
ADC_BLU_OFFSET2	327	070
ADC_RED_GAIN	328	240
ADC_GRN_GAIN	330	240
ADC_BLU_GAIN	332	240
HD Greyscale settings		
Setting	Scaler NVM Address (decimal value)	all sets
ADC_RED_OFFSET2	351	064
ADC_GRN_OFFSET2	352	075
ADC_BLU_OFFSET2	353	064
ADC_RED_GAIN	354	180
ADC_GRN_GAIN	356	180
ADC_BLU_GAIN	358	180

8.3.5 Panel Size Settings

The table below shows the NVM settings for panel selection, based on panel size and manufacturer. Use the SC NVM editor in the SAM menu to change the panel code at decimal address 320.

Caution:

- **Make sure to choose the right panel, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-2 Panel size settings

Option table for panel size settings		
Manufacturer	Size (inch)	Panel code (hex)
SDI (HD)	42	01
SDI	42	02
SDI (HD)	50	04

8.3.6 Sound

- For NICAM sets: see paragraph 8.3.3.
- For other sets: No adjustments needed for sound.

8.3.7 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring 64 features or settings of the HERCULES part of the TV set to their original default factory values (8 groups of 8 features/settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 HERCULES options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed). The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular HERCULES feature or setting ON or OFF, depending on its value (1 or 0).

It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the HERCULES part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

How to Change an Option Byte

As has been explained above, an Option byte (OP) represents a number of different HERCULES options. Changing these bytes directly makes it possible to set all HERCULES options very fast. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the Menu Up/ Down keys, and enter the new (decimal) value. For the correct Factory Default settings, see the first table below. For more detailed information, see the second table.

Leaving the Option submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched “off” and “on” with the AC power switch (cold start).

Table 8-3 Option codes OP1...OP7

Option table for quickly restoring the HERCULES to its Factory Default settings		
Model number	42PF7320G/79 42PF7320G/98 50PF7320G/79 50PF7320G/98	50PF7320G/93
OP1	152	25
OP2	165	165
OP3	111	111
OP4	81	81
OP5	252	252
OP6	27	27
OP7	16	16
Options (can be changed only via the SAM menu)	Total decimal value for each option per model number	

How to Change Options at Bit Level

If you wish to know which features or settings of the HERCULES are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.

Note: the table below contains only part of the NVM settings that can be changed. A second range of settings and features can be found in Chapter 5 of this manual, in table **NVM Default values**. The settings mentioned there can only be changed via the NVM editor. For further settings, see also the table “ADC Gain and Grey scale alignment” elsewhere in this manual.

Table 8-4 Option codes in detail, at bit level

Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu			
Model number		42PF7320G/79 42PF7320G/98 50PF7320G/79 50PF7320G/98	50PF7320G/93
OP1	Description of feature/option to be switched ON or OFF		
bit 7 (msb)	OP_PHILIPS_TUNER	1	0
bit 6	OP_FM_RADIO	0	0
bit 5	OP_LNA	0	0
bit 4	OP_HDMI	1	1
bit 3	OP_YPBPR	1	1
bit 2	OP_UK_PNP (for DVB)	0	0
bit 1	OP_VIRGIN_MODE	0	0
bit 0 (lsb)	OP_CHINA	0	1
	Total DEC Value	152	25
	Total HEX Value	98	19
OP2			
bit 7 (msb)	OP_HDMI-2X	1	1
bit 6	OP_IBEX (for DVB)	0	0
bit 5	OP_CHANNEL_NAMING	1	1
bit 4	OP_LTI (Lum Transcient Improvmt)	0	0
bit 3	OP_TILT	0	0
bit 2	OP_FINE_TUNING	1	1
bit 1	OP_BACKLIGHT_DIMMING (for Malibu only)	0	0
bit 0 (lsb)	OP_HUE	1	1
	Total DEC Value	165	165
	Total HEX Value	A5	A5
OP3			
bit 7 (msb)	OP_EW_FUNCTION	0	0
bit 6	OP_PIXEL_PLUS (for Option A)	1	1
bit 5	OP_SCL_RECOVERY	1	1
bit 4	OP_SPLITTER // temp	0	0
bit 3	OP_VIRTUAL_DOLBY	1	1
bit 2	OP_WIDE_SCREEN	1	1
bit 1	OP_WSSB	1	1
bit 0 (lsb)	OP_OP_ME5 // OP_ME5 - 5/6 local buttons implementation	1	1
	Total DEC Value	111	111
	Total HEX Value	6F	6F
OP4			
bit 7 (msb)	OP_LIP_SYNC (for PDP only)	0	0
bit 6	OP_HD	1	1
bit 5	OP_1000P_TEXT	0	0
bit 4	OP_DELTA_VOLUME	1	1
bit 3	OP_TAIWAN_KOREA	0	0
bit 2	OP_VOLUME_LIMITER	0	0
bit 1	OP_STEREO_DBX	0	0
bit 0 (lsb)	OP_STEREO_NICAM_2CS	1	1
	Total DEC Value	81	81
	Total HEX Value	51	51
OP5			
bit 7 (msb)	OP_AV1	1	1
bit 6	OP_AV2	1	1
bit 5	OP_AV3	1	1
bit 4	OP_CVI	1	1
bit 3	OP_SVHS2	1	1
bit 2	OP_SVHS3	1	1
bit 1	OP_HOTEL_MODE	0	0
bit 0 (lsb)	OP_SIMPLY_FACTORY=OP_BTSC_AVSTEREO	0	0
	Total DEC Value	252	252
	Total HEX Value	FC	FC
OP6			
bit 7 (msb)	OP_PERSONAL_ZAPPING	0	0
bit 6	OP_SMART_SURF	0	0
bit 5	OP_FMTRAP	0	0
bit 4	OP_COMBFILTER	1	1
bit 3	OP_ACTIVE_CONTROL	1	1
bit 2	OP_VIDEO_TEXT	0	0
bit 1	OP_LIGHT_SENSOR	1	1
bit 0 (lsb)	OP_TWIN_TEXT	1	1
	Total DEC Value	27	27
	Total HEX Value	1B	1B
OP7			
bit 7 (msb)	OP_TIME_WIN1	0	0
bit 6	OP_DVB_USB = OP_MALAY	0	0
bit 5	OP_AMBILIGHT	0	0
bit 4	OP_SIGNAL_STRENGTH	1	1
bit 3	OP_DUMMY6	0	0
bit 2	OP_DUMMY7	0	0
bit 1	OP_WEST_EU	0	0
bit 0 (lsb)	OP_MULTI_STANDARD_EUR	0	0
	Total DEC Value	16	16
	Total HEX Value	10	10

There are two types of Power Supply Units used in the various models of this chassis. Both Supply Units come with the PDP Panel and are a "Black Box" for Service. For Block Diagrams, Circuit Diagrams, PWB Layouts and Alignments, please refer to the PDP Repair Manual (see reference on the front page).

9.4 Abbreviation List

		EEPROM	Electrically Erasable and Programmable Read Only Memory
0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format	EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTVView)
1080i	1080 visible lines, interlaced	EU	Europe
1080p	1080 visible lines, progressive scan	EXT	EXTERNAL (source), entering the set by SCART or by cinches (jacks)
2CS	2 Carrier Sound (or 2 Channel Stereo)	FBL	Fast BLanking; DC signal accompanying RGB signals. To blank the video signal when it is returning from the right side of the screen to the left side. The video level is brought down below the black video level
480i	480 visible lines, interlaced	FM	Field Memory; A memory chip that is capable of storing one or more TV picture fields / Frequency Modulation; A technique that sends data as frequency variations of a carrier signal
480p	480 visible lines, progressive scan	FRC	Frame Rate Converter
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page	H	H_sync to the module
ADC	Analogue to Digital Converter	HA	Horizontal Acquisition; horizontal sync pulse
AFC	Automatic Frequency Control; Control signal used to tune and lock to the correct frequency	HD	High Definition
AGC	Automatic Gain Control (feedback) signal to the tuner. This circuit ensures a constant output amplitude regardless of the input amplitude	HP	HeadPhone
AM	Amplitude Modulation; A "data encoding to a carrier" method, such that the carrier amplitude is proportional to the data value	I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band
AP or A/P	Asia Pacific	I ² C	Integrated IC bus
AR	Aspect Ratio: 4 by 3 or 16 by 9	I ² S	Integrated IC Sound bus
ASD	Automatic Standard Detection	IC	Integrated Circuit
AV	External Audio Video	IF	Intermediate Frequency
B-SC1-IN	Blue SCART1/EXT1 in	Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
B-SC2-IN	Blue SCART2/EXT2 in		
B-TXT	Blue TeleteXT		
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band	IR	Infra Red
C-FRONT	Chrominance front input	IRQ	Interrupt ReQuest
CBA	Circuit Board Assembly (also called PCB or PWB)	Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences
CL	Constant Level: audio output to connect with an external amplifier		
CLUT	Colour Look-Up Table		
COFDM	Coded Orthogonal Frequency Division Multiplexing: a multiplexing technique, that distributes the data to be transmitted, over many carriers	LATAM	LATIn AMerica
		LED	Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it
COLUMBUS	COLOUR LUMInance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering	L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
ComPair	Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface	LS	LoudSpeaker
		LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.
CSM	Customer Service Mode	M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz
CVBS	Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information	MOSFET	Metal Oxide Semiconductor Field Effect Transistor
DAC	Digital to Analogue Converter	MPEG	Motion Pictures Experts Group. An ISO/IEC body that has given its name to an image compressing scheme for moving video
DBE	Dynamic Bass Enhancement: extra low frequency amplification		
DFU	Directions For Use: Owner's manual	MSP	Multi-standard Sound Processor: ITT sound decoder
DNR	Dynamic Noise Reduction / Digital Noise Reduction; Noise reduction feature of the set	MUTE	MUTE Line
DRAM	Dynamic RAM; dynamically refreshed RAM	NC	Not Connected
DSP	Digital Signal Processing	NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
DST	Dealer Service Tool; Special remote control designed for dealers to enter e.g. service mode (a DST-emulator is available in ComPair)	NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545

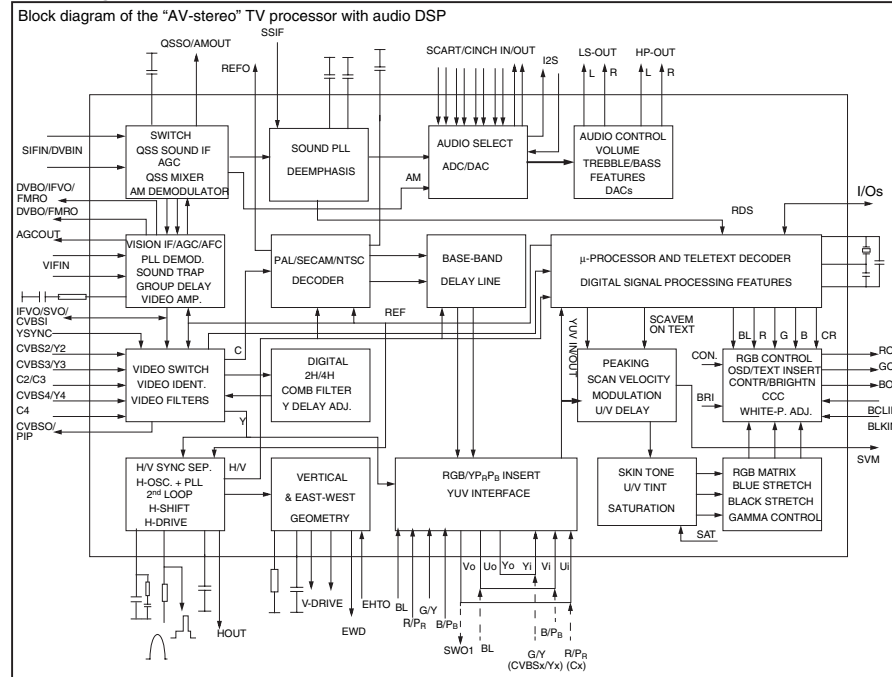
	MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)	VA	Vertical Acquisition
NVM	Non Volatile Memory; IC containing data such as alignment values, preset stations	VL	Variable Level out: processed audio output towards external amplifier
O/C	Open Circuit	VCR	Video Cassette Recorder
ON/OFF LED	On/Off control signal for the LED	VGA	Video Graphics Array; 640x480 (4:3)
OSD	On Screen Display	WD	Watch Dog
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)	WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
PC	Personal Computer	XTAL	Quartz crystal
PCB	Printed Circuit Board (or PWB)	Y	Luminance signal
PDP	Plasma Display Panel	Y/C	Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal
PIP	Picture In Picture	YPbPr	This is a scaled version of the YUV colour space. Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency	YUV	Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.		
PWB	Printed Wiring Board (also called PCB or CBA)		
RAM	Random Access Memory		
RC	Remote Control transmitter		
RC5 or 6	Remote Control system 5 or 6, the signal from the remote control receiver		
RGB	Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced		
RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync		
ROM	Read Only Memory		
SAM	Service Alignment Mode		
S/C	Short Circuit		
SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et Téléviseurs; This is a 21-pin connector used in EU, that carries various audio, video, and control signals (it is also called Péritel connector)		
SCL	Serial CLock Signal on I ² C bus		
SD	Standard Definition		
SDA	Serial DATa Signal on I ² C bus		
SDRAM	Synchronous DRAM		
SECAM	SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz		
SIF	Sound Intermediate Frequency		
SMPS	Switched Mode Power Supply		
SND	SouND		
SOPS	Self Oscillating Power Supply		
SRAM	Static RAM		
STBY	STandBY		
SVHS	Super Video Home System		
SW	Software or Subwoofer or Switch		
THD	Total Harmonic Distortion		
TXT	Teletext; TXT is a digital addition to analogue TV signals that contain textual and graphical information (25 rows x 40 columns). The information is transmitted within the first 25 lines during the Vertical Blank Interval (VBI)		
uP	Microprocessor		

9.5 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.5.1 Diagram B2, Type TDA15021H (IC7217, Hercules)

Block Diagram



Pin Configuration

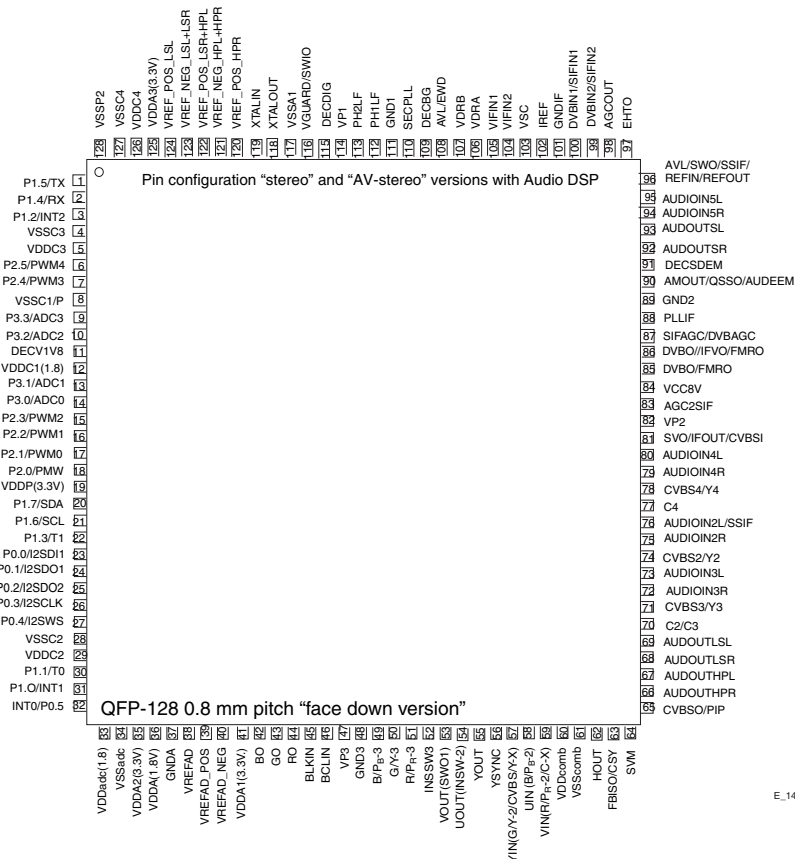
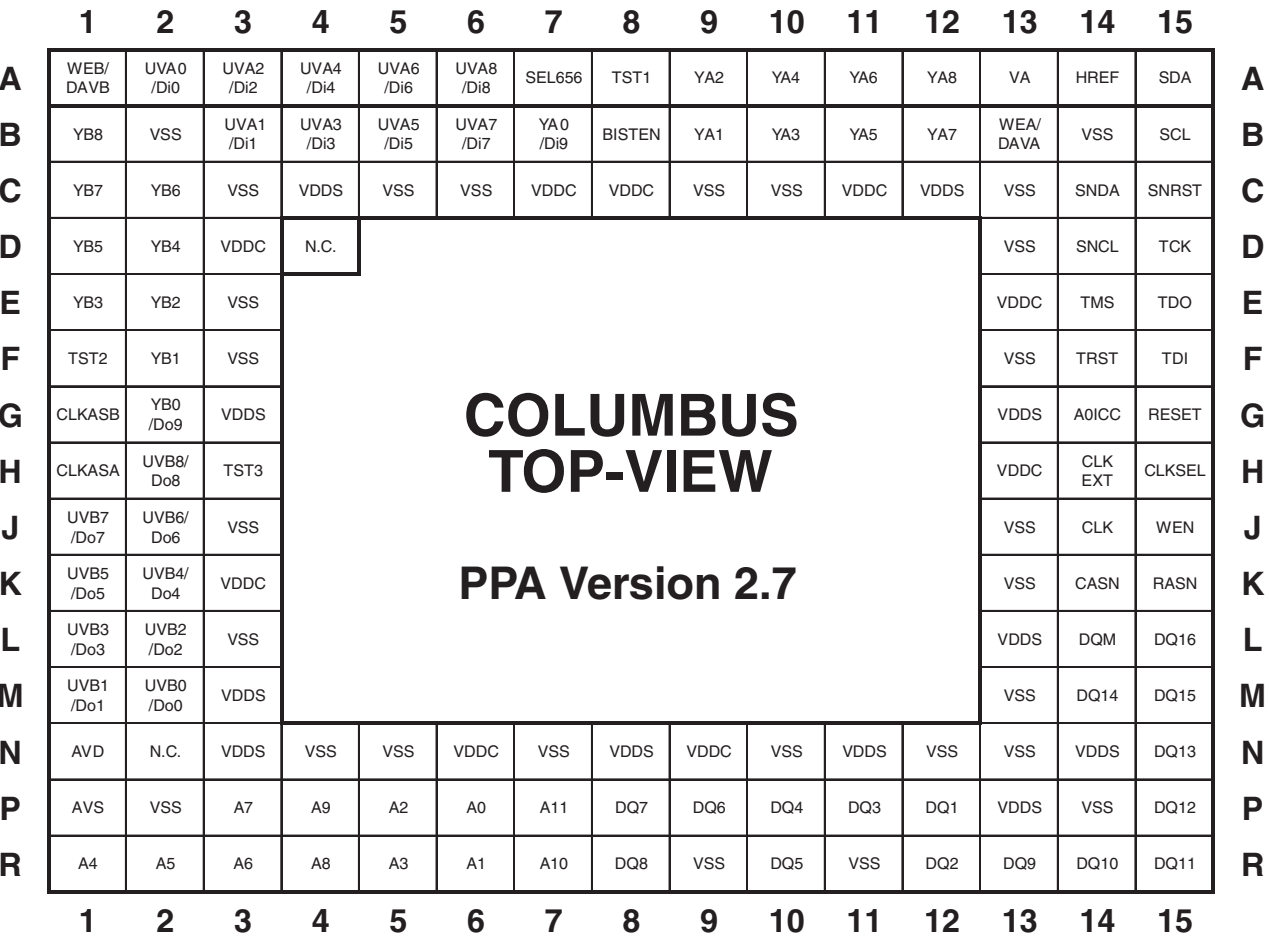


Figure 9-2 Internal block diagram and pin configuration

9.5.2 Diagram B19, Type T6TU5XB (IC7M00, Columbus)

Figure 1 Package outline (top view)

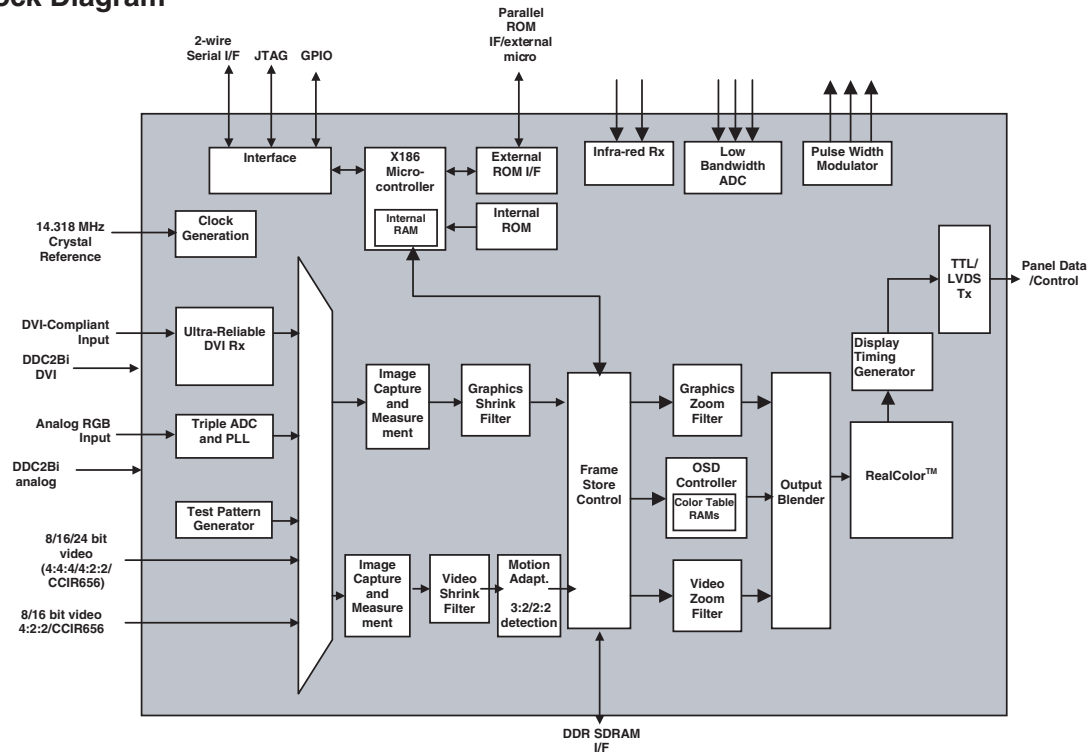


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200804

Figure 9-3 Pin configuration

9.5.3 Diagram B7+B8+B9, Type GM1501 (IC7801, Genesis)

Block Diagram



Pin Configuration

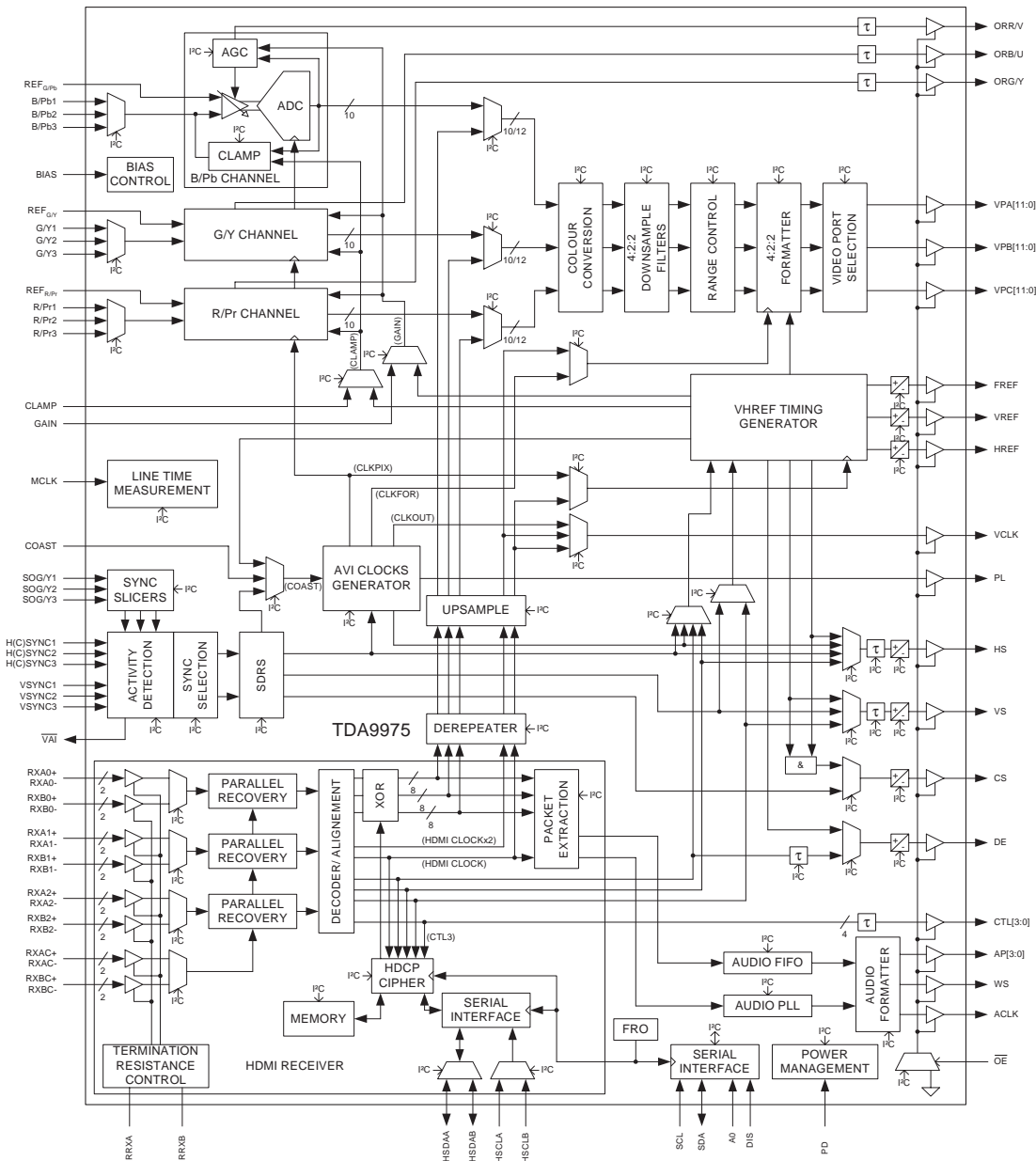
A	NC	ADC_3.3	ADC_1.8	ADC_1.8	ADC_DGND	RXC+	DVI_GND	RX0+	RX1+	RX2+	DVI_GND	LBADC_IN3	D_GND
B	BLUE-	BLUE+	ADC_3.3	ADC_DGND	DVI_GND	RXC-	DVI_GND	RX0-	RX1-	RX2-	REXT	LBADC_IN2	D_GND
C	GREEN-	GREEN+	SOG	ADC_AGND	NC	DVI_3.3	DVI_GND	DVI_3.3	DVI_3.3	DVI_3.3	DVI_3.3	LBADC_IN1	LBADC_3.3
D	RED-	RED+	ADC_3.3	ADC_AGND	NC	DVI_1.8	DVI_GND	DVI_1.8	DVI_1.8	DVI_1.8	DVI_GND	LBADC_RETURN	LBADC_GND
E	ADC_AGND	ADC_AGND	ADC_3.3	ADC_AGND									
F	NC	VDD33_PLL	VSSA33_RPLL	VDDA33_RPLL									
G	VDDA33_FPLL	VSSD33_PLL	TCLK	XTAL									
H	VDD33_SDDS	VSSA33_SDDS	VDDA33_SDDS	VSSA33_FPLL									
J	VDD33_DDDS	VSSA33_DDDS	VDDA33_DDDS	VSSD33_SDDS									
K	RESETn	ACS_RSET_HD	NC	VSSD33_DDDS						CORE_1.8	CORE_1.8	D_GND	D_GND
L	OCM_INT2	OCM_INT1	AVSYNC	AHSYNC						D_GND	CORE_1.8	D_GND	D_GND
M	OCM_UD0	OCM_UD1	IR0	IR1						D_GND	D_GND	D_GND	D_GND
N	VGA_SDA	VGA_SCL	DVI_SDA	DVI_SCL						D_GND	D_GND	D_GND	D_GND
P	OCM_CS1n	OCM_CS2n	MSTR_SDA	MSTR_SCL						D_GND	D_GND	D_GND	D_GND
R	ROM_CSn	OCM_ReEn	OCM_WEn	EXTCLK						D_GND	D_GND	D_GND	D_GND
T	OCMADDR_17	OCMADDR_18	OCMADDR_19	OCM_CS0n						D_GND	CORE_1.8	D_GND	D_GND
U	OCMADDR_13	OCMADDR_14	OCMADDR_15	OCMADDR_16						CORE_1.8	CORE_1.8	D_GND	D_GND
V	OCMADDR_9	OCMADDR_10	OCMADDR_11	OCMADDR_12									
W	OCMADDR_6	OCMADDR_7	OCMADDR_8	IO_3.3									
Y	OCMADDR_3	OCMADDR_4	OCMADDR_5	IO_3.3									
AA	OCMADDR_0	OCMADDR_1	OCMADDR_2	IO_3.3									
AB	OCMDATA13	OCMDATA14	OCMDATA15	IO_3.3									
AC	OCMDATA10	OCMDATA11	OCMDATA12	IO_3.3	GPIO_G08_B2 (DEGRN0)	IO_3.3	DCLK	IO_3.3	GPIO_G07_B2 (DERED4)	IO_3.3	SHIELD[1] (DEGRN3)	LVDSB_3.3	LVDSB_GND
AD	OCMDATA9	OCMDATA6	OCMDATA3	OCMDATA0	GPIO_G09_B3 (DEGRN1)	GPIO_G08_B0 (DORED0)	DEN	GPIO_G08_B5 (DOBLU1)	GPIO_G07_B3 (DERED5)	GPIO_G07_B6 (DERED8)	SHIELD[2] (DEGRN4)	LVDSB_3.3	LVDSB_3.3
AE	OCMDATA8	OCMDATA5	OCMDATA2	GPIO_G09_B0 (DERED0)	GPIO_G09_B4 (DEBLU0)	GPIO_G08_B1 (DORED1)	GPIO_G08_B3 (DOGRN1)	GPIO_G07_B0 (DERED2)	GPIO_G07_B4 (DERED6)	GPIO_G07_B7 (DERED9)	SHIELD[3] (DEGRN5)	BC+ (DEGRN8)	SHIELD[4] (DEBLU2)
AF	OCMDATA7	OCMDATA4	OCMDATA1	GPIO_G09_B1 (DERED1)	GPIO_G09_B5 (DOGRN0)	GPIO_G08_B2 (DOBLU1)	GPIO_G08_B4 (DOBLU0)	GPIO_G07_B1 (DERED3)	GPIO_G07_B5 (DERED7)	SHIELD[0] (DEGRN2)	B3+ (DEGRN6)	B3- (DEGRN7)	BC- (DEGRN9)
	1	2	3	4	5	6	7	8	9	10	11	12	13

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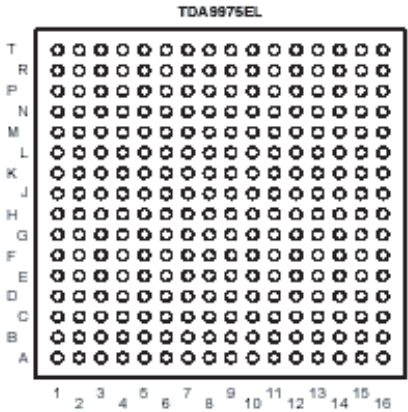
Figure 9-4 Internal block diagram and pin configuration

9.5.4 Diagram B12, Type TDA9975EL (IC7D03, HDMI Panellink), Reserved

Block Diagram



Pin Configuration



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240505

Figure 9-5 Internal block diagram and pin configuration

10. Spare Parts List

Sets Listed

(1)	8670 000 24132	42PF7320G/79
(2)	8670 000 24134	42PF7320G/98
(3)	8670 000 24136	50PF7320G/79
(4)	8670 000 24137	50PF7320G/93
(5)	8670 000 24138	50PF7320G/98

Set Level

Various

1062	2422 549 00148	Socket 3p m
1099	9322 233 14682	PDP S42SD-YD09
1099	9322 240 25682	PDP S50HW-YD01
1112▲	3139 267 28371	LED Panel Assy [J]
1114	3104 328 39561	Side Control Assy [E]
1116	3104 328 40501	Side I/O Assy [D] 42"/50"
1174	3139 268 03551	Audio Ampl. Assy [C]
8101	3104 311 10921	Cable 3p/1K8/3p
8136	3104 311 10733	Cable 11p/1000/11p
8152	3104 311 08951	Cable 9p/560/9p Wh
8152	3104 311 09921	Cable 9p/680/9p
8302	3104 311 07241	Cable 7p/1000/7p
8321	3104 311 08731	Cable Posi/100/posi
8322	3104 311 08821	Cable 10p/400/10p
8337	3104 311 06991	Cable 11p/280/11p
8870	3104 311 11561	Cable 6p/680/6p Wh
8900	3104 311 07911	Cable ring/180/ring
8902	3139 131 07891	Cable 2p3/1k4/2posi Bk
8903	3139 131 07901	Cable 2p3/1k/2posi Wh
8P06	3104 311 08831	Cable 31p/300/31p



5213	2422 264 00563	Loudsp 8Ω 15W FR
5213	2422 264 00564	Loudsp. 8Ω 15W SQ

Small Signal Board [B]



Software (see Philips Service Website)

0801	Downloadable file
0802	Downloadable file
0811	Downloadable file
0812	Downloadable file
0821	Downloadable file
0822	Downloadable file

Various

1101	2422 025 18749	Connector 3p m
1102	2422 542 00003	Tuner TEDE9-286A
1102	3139 147 21911	Tuner UV1316E/A I H-4
1104	2422 549 44376	SAW 38MHz M3956L
1104	2422 549 44388	SAW 38.9MHz K7265L
1105	2422 549 44373	SAW 38MHz K3955L
1106	2422 549 44374	SAW 38MHz K9352L
1106	2422 549 44389	SAW 38.9MHz K9361L
1107	2422 025 18749	Connector 3p m
1202	2422 543 01414	Xtal 24.576MHz
1801	2422 543 01133	Xtal 14.32MHz 20pF
1J00	2422 025 10771	Connector 10p m
1J01	2422 025 10655	Connector 11p m
1J04	2422 025 10769	Connector 9p m
1J08	2422 549 45333	Bead 120Ω at 100MHz
1K00	2422 025 08149	Connector 6p m
1K02	2422 025 10768	Connector 3p m
1K04	2422 025 10655	Connector 11p m
1L35	2422 543 01133	Xtal 14.32MHz 20pF
1M01	2422 025 18744	Connector 9p m
1M02	2422 025 18742	Connector 7p m
1M03	2422 025 18738	Connector 3p m
1M04	2422 025 19515	Connector 3p m
1N02	2422 540 00017	Reson. 60MHz CSTCW
1N11	2422 549 45325	Bead 67Ω at 100MHz
1N12	2422 549 45325	Bead 67Ω at 100MHz
1N13	2422 549 45325	Bead 67Ω at 100MHz
1N14	2422 549 45325	Bead 67Ω at 100MHz
1N15	2422 549 45325	Bead 67Ω at 100MHz
1N17	2422 025 18427	Connector 31p f
1Q01	2422 026 05647	Cinch 2P F 2L1
1Q02	2422 033 00505	Socket HDMI 19p f
1Q03	2422 033 00505	Socket HDMI 19p f
1R02	2422 025 18477	Socket sub-D 15p f h

1R02	2438 031 00416	Connector 15p f
1R06	2422 026 05705	Socket Cinch 4p f
1R07	2422 026 05704	Socket Cinch 4p f
1R08	2422 026 05647	Cinch 2P F 2L1
— —		
2101	4822 124 12095	100μF 20% 16V
2102	5322 126 11583	10nF 10% 50V 0603
2103	5322 126 11583	10nF 10% 50V 0603
2104	4822 122 33761	22pF 5% 50V
2105	4822 122 33761	22pF 5% 50V
2106	5322 126 11583	10nF 10% 50V 0603
2107	3198 024 44730	47nF 50V 0603
2108	3198 030 82280	2.2μF 20% 50V
2109	5322 124 41945	22μF 20% 35V
2113	4822 124 12095	100μF 20% 16V
2203	4822 124 23002	10μF 16V
2204	2020 012 00029	330μF 6.3V
2207	2020 552 96718	220nF 10% 6.3V 0402
2208	4822 124 12084	1μF 20% 50V
2210	2020 552 96718	220nF 10% 6.3V 0402
2211	2020 552 96628	10nF 10% 16V 0402
2212	3198 035 71040	100nF 10% 16V 0402
2214	3198 035 03310	330pF 5% 50V 0402
2216	3198 035 03310	330pF 5% 50V 0402
2218	3198 035 71040	100nF 10% 16V 0402
2221	4822 124 12095	100μF 20% 16V
2222	2020 012 00029	330μF 6.3V
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 552 96618	1nF 10% 50V 0402
2226	3198 035 03320	3.3nF 5% 50V 0402
2227	2020 552 96618	1nF 10% 50V 0402
2228	3198 035 71040	100nF 10% 16V 0402
2230	3198 035 71040	100nF 10% 16V 0402
2231	2020 552 96718	220nF 10% 6.3V 0402
2232	3198 035 71040	100nF 10% 16V 0402
2233	4822 124 23002	10μF 16V
2234	2020 552 96718	220nF 10% 6.3V 0402
2235	2020 552 96718	220nF 10% 6.3V 0402
2236	4822 126 14076	220nF +80/-20% 25V
2237	2020 552 96718	220nF 10% 6.3V 0402
2238	2020 552 96718	220nF 10% 6.3V 0402
2239	3198 035 71040	100nF 10% 16V 0402
2240	2020 552 96718	220nF 10% 6.3V 0402
2241	2020 552 96718	220nF 10% 6.3V 0402
2242	3198 035 71040	100nF 10% 16V 0402
2243	4822 124 23002	10μF 16V
2247	3198 030 82280	2.2μF 20% 50V
2250	2020 552 96618	1nF 10% 50V 0402
2251	2020 552 96656	10μF 20% 25V 1210
2252	3198 035 71040	100nF 10% 16V 0402
2253	3198 035 71040	100nF 10% 16V 0402
2254	3198 035 71040	100nF 10% 16V 0402
2255	3198 035 71040	100nF 10% 16V 0402
2256	4822 124 23002	10μF 16V
2257	3198 035 71040	100nF 10% 16V 0402
2258	2020 552 96637	10μF 10% 6.3V 0805
2259	3198 035 71040	100nF 10% 16V 0402
2260	2020 552 96637	10μF 10% 6.3V 0805
2262	4822 124 23002	10μF 16V
2263	3198 035 26820	6.8nF 10% 16V 0402
2264	3198 030 84770	0.47μF 20% 50V
2265	4822 124 12084	1μF 20% 50V
2266	3198 035 71040	100nF 10% 16V 0402
2267	2020 552 96718	220nF 10% 6.3V 0402
2268	3198 030 82280	2.2μF 20% 50V
2269	2022 031 00373	470μF 20% 16V
2270	3198 035 71040	100nF 10% 16V 0402
2271	4822 124 12095	100μF 20% 16V
2272	3198 035 71040	100nF 10% 16V 0402
2273	2020 552 96718	220nF 10% 6.3V 0402
2274	3198 017 31540	150nF 10V 0603
2277	3198 035 71040	100nF 10% 16V 0402
2280	2020 552 00027	4.7μF 2% 6.3V 0603
2281	2020 552 00027	4.7μF 2% 6.3V 0603
2285▲	3198 035 71040	100nF 10% 16V 0402
2286	3198 035 71040	100nF 10% 16V 0402
2449	3198 035 71040	100nF 10% 16V 0402
2603	2020 552 96834	1μF 20% 6.3V 0402
2604	3198 035 04710	470pF 50V 0402
2605	2020 552 96834	1μF 20% 6.3V 0402
2608	2020 552 96834	1μF 20% 6.3V 0402
2609	3198 035 04710	470pF 50V 0402
2610	2020 552 96834	1μF 20% 6.3V 0402
2611	4822 124 12095	100μF 20% 16V
2612	3198 017 41050	1μF 10V 0603
2614	3198 035 71040	100nF 10% 16V 0402
2615	2022 031 00373	470μF 20% 16V

2618	2022 031 00373	470μF 20% 16V
2702	3198 035 71040	100nF 10% 16V 0402
2704	4822 124 23002	10μF 16V
2706	4822 124 23002	10μF 16V
2709	2020 012 93822	47μF 20% 16V
2710	2020 552 00231	22μF 20%
2711	2020 552 00231	22μF 20%
2716	2022 031 00371	470μF 20% 16V
2717	3198 035 71040	100nF 10% 16V 0402
2718	3198 035 71040	100nF 10% 16V 0402
2719	3198 035 71040	100nF 10% 16V 0402
2720	2020 552 96618	1nF 10% 50V 0402
2721	3198 035 71040	100nF 10% 16V 0402
2722	2020 552 96618	1nF 10% 50V 0402
2723	3198 035 74730	47nF 5% 16V 0402
2724	3198 016 31020	1nF 25V 0603
2725	3198 016 31020	1nF 25V 0603
2726	2022 031 00373	470μF 20% 16V
2727	2020 552 96628	10nF 10% 16V 0402
2730	2020 552 00231	22μF 20%
2731	2022 031 00373	470μF 20% 16V
2733	3198 035 02210	220pF 5% 50V 0402
2734	2020 552 96455	22nF 10% 16V 0402
2735	3198 035 06810	680pF 5% 50V 0402
2736	2022 031 00308	22μF 20% 35V
2737	2022 031 00373	470μF 20% 16V
2738	2020 012 93822	47μF 20% 16V
2739	2020 012 93822	47μF 20% 16V
2741	4822 126 13879	220nF +80-20% 16V
2758	2022 031 00373	470μF 20% 16V
2800	2020 021 91557	100μF 20% 16V
2801	3198 035 71040	100nF 10% 16V 0402
2802	3198 035 71040	100nF 10% 16V 0402
2803	3198 035 71040	100nF 10% 16V 0402
2804	3198 035 71040	100nF 10% 16V 0402
2805	3198 035 71040	100nF 10% 16V 0402
2806	3198 035 71040	100nF 10% 16V 0402
2807	3198 035 71040	100nF 10% 16V 0402
2808	3198 035 71040	100nF 10% 16V 0402
2809	3198 035 71040	100nF 10% 16V 0402
2810	3198 035 71040	100nF 10% 16V 0402
2811	3198 035 71040	100nF 10% 16V 0402
2812	3198 035 71040	100nF 10% 16V 0402
2813	3198 035 71040	100nF 10% 16V 0402
2814	3198 035 71040	100nF 10% 16V 0402
2815	5322 124 41945	22μF 20% 35V
2816	3198 035 71040	100nF 10% 16V 0402
2817	3198 035 71040	100nF 10% 16V 0402
2818	3198 035 71040	100nF 10% 16V 0402
2819	3198 035 71040	100nF 10% 16V 0402
2820	3198 035 71040	100nF 10% 16V 0402
2821	3198 035 71040	100nF 10% 16V 0402
2822	3198 035 71040	100nF 10% 16V 0402
2823	4822 126 14519	22pF 5% 50V 0402
2824	4822 126 14519	22pF 5% 50V 0402
2900	3198 035 71040	100nF 10% 16V 0402
2901	2020 552 96618	1nF 10% 50V 0402
2902	2020 021 91557	100μF 20% 16V
2903	3198 035 71040	100nF 10% 16V 0402
2904	2020 012 93822	47μF 20% 16V
2905	2020 021 91557	100μF 20% 16V
2906	3198 035 71040	100nF 10% 16V 0402
2907	3198 035 71040	100nF 10% 16V 0402
2908	3198 035 71040	100nF 10% 16V 0402
2909	3198 035 71040	100nF 10% 16V 0402
2910	3198 035 71040	100nF 10% 16V 0402
2911	3198 035 71040	100nF 10% 16V 0402
2912	3198 035 71040	100nF 10% 16V 0402
2913	3198 035 71040	100nF 10% 16V 0402
2914	3198 035 71040	100nF 10%

2934	2020 012 93822	47µF 20% 16V	2D35	2020 552 96618	1nF 10% 50V 0402	2J17	2020 552 96618	1nF 10% 50V 0402
2935	3198 035 71040	100nF 10% 16V 0402	2D35	2020 552 96621	1.5nF 10% 50V 0402	2J21	2238 869 15101	100pF 5% 50V 0402
2936	3198 035 71040	100nF 10% 16V 0402	2D36	2020 552 96618	1nF 10% 50V 0402	2J26	2238 869 15101	100pF 5% 50V 0402
2937	3198 035 71040	100nF 10% 16V 0402	2D36	2020 552 96621	1.5nF 10% 50V 0402	2J27	2238 869 15101	100pF 5% 50V 0402
2938	3198 035 71040	100nF 10% 16V 0402	2D37	2020 552 96618	1nF 10% 50V 0402	2J28	2238 869 15101	100pF 5% 50V 0402
2939	3198 035 71040	100nF 10% 16V 0402	2D37	2020 552 96621	1.5nF 10% 50V 0402	2J29	2238 869 15101	100pF 5% 50V 0402
2940	2020 012 93822	47µF 20% 16V	2D38	2020 552 96618	1nF 10% 50V 0402	2J30	2020 552 96618	1nF 10% 50V 0402
2941	3198 035 71040	100nF 10% 16V 0402	2D38	2222 580 15649	100nF 10% 50V 0805	2J31	2238 869 15101	100pF 5% 50V 0402
2942	3198 035 71040	100nF 10% 16V 0402	2D39	2020 552 96618	1nF 10% 50V 0402	2J35	2022 552 05614	1µF 10% 6V3 0603
2945	5322 124 41945	22µF 20% 35V	2D39	2020 552 96621	1.5nF 10% 50V 0402	2J36	2020 552 96618	1nF 10% 50V 0402
2946	3198 035 71040	100nF 10% 16V 0402	2D40	2020 552 96621	1.5nF 10% 50V 0402	2K00	2020 552 96618	1nF 10% 50V 0402
2947	3198 035 71040	100nF 10% 16V 0402	2D41	2222 580 15649	100nF 10% 50V 0805	2K01	2020 552 96618	1nF 10% 50V 0402
2948	3198 035 71040	100nF 10% 16V 0402	2D42	4822 124 23237	22µF 6.3V	2K02	2238 869 15109	10pF 5% 50V 0402
2949	3198 035 71040	100nF 10% 16V 0402	2D43	2222 580 15649	100nF 10% 50V 0805	2K03	2238 869 15109	10pF 5% 50V 0402
2950	5322 124 41945	22µF 20% 35V	2D43	4822 124 23237	22µF 6.3V	2K04	2238 869 15109	10pF 5% 50V 0402
2951	3198 035 71040	100nF 10% 16V 0402	2D44	4822 124 23237	22µF 6.3V	2K05	2238 869 15109	10pF 5% 50V 0402
2952	3198 035 71040	100nF 10% 16V 0402	2D45	2222 580 15649	100nF 10% 50V 0805	2K06	2238 869 15101	100pF 5% 50V 0402
2953	3198 035 71040	100nF 10% 16V 0402	2D45	3198 035 71040	100nF 10% 16V 0402	2K07	2238 869 15101	100pF 5% 50V 0402
2954	3198 035 71040	100nF 10% 16V 0402	2D45	4822 126 14585	100nF 10% 50V 0805	2K08	2020 552 00183	2.2µF 10% 6.3V 0603
2955	5322 124 41945	22µF 20% 35V	2D46	2222 580 15649	100nF 10% 50V 0805	2K10	2238 869 15101	100pF 5% 50V 0402
2956	3198 035 71040	100nF 10% 16V 0402	2D46	4822 124 11131	47µF 6.3V	2K11	2238 869 15101	100pF 5% 50V 0402
2957	3198 035 71040	100nF 10% 16V 0402	2D46	4822 126 14585	100nF 10% 0805 50V	2K12	2020 552 00183	2.2µF 10% 6.3V 0603
2958	3198 035 71040	100nF 10% 16V 0402	2D47	2020 552 96621	1.5nF 10% 50V 0402	2K13	2238 869 15101	100pF 5% 50V 0402
2959	3198 035 71040	100nF 10% 16V 0402	2D47	4822 124 23237	22µF 6.3V	2K14	2238 869 15101	100pF 5% 50V 0402
2960	2020 021 91557	100µF 20% 16V	2D48	2020 552 96621	1.5nF 10% 50V 0402	2K16	2238 869 15101	100pF 5% 50V 0402
2A12	2020 552 96628	10nF 10% 16V 0402	2D48	4822 124 23237	22µF 6.3V	2K17	2238 869 15101	100pF 5% 50V 0402
2A13	3198 035 71040	100nF 10% 16V 0402	2D49	2020 552 96618	1nF 10% 50V 0402	2K18	2238 869 15101	100pF 5% 50V 0402
2B01	2020 012 93822	47µF 20% 16V	2D49	2020 552 96621	1.5nF 10% 50V 0402	2K19	2020 552 96618	1nF 10% 50V 0402
2B02	4822 124 11131	47µF 6.3V	2D50	2020 552 96621	1.5nF 10% 50V 0402	2K20	2020 552 96618	1nF 10% 50V 0402
2B03	3198 035 71040	100nF 10% 16V 0402	2D50	4822 124 11131	47µF 6.3V	2K21	2238 869 15101	100pF 5% 50V 0402
2B04	3198 035 71040	100nF 10% 16V 0402	2D51	2020 552 96618	1nF 10% 50V 0402	2K22	2238 869 15101	100pF 5% 50V 0402
2B05	3198 035 71040	100nF 10% 16V 0402	2D51	3198 035 71040	100nF 10% 16V 0402	2K23	2238 869 15101	100pF 5% 50V 0402
2B06	3198 035 71040	100nF 10% 16V 0402	2D52	2020 021 00215	220µF 20% 25V	2K25	2238 869 15101	100pF 5% 50V 0402
2B07	3198 035 71040	100nF 10% 16V 0402	2D52	4822 124 11131	47µF 6.3V	2K26	2238 869 15101	100pF 5% 50V 0402
2B08	3198 035 71040	100nF 10% 16V 0402	2D53	2020 552 96828	470nF 20% 25V	2K27	2238 869 15101	100pF 5% 50V 0402
2B09	3198 035 71040	100nF 10% 16V 0402	2D53	3198 035 71040	100nF 10% 16V 0402	2L01	4822 124 23002	10µF 16V
2B10	3198 035 71040	100nF 10% 16V 0402	2D54	2020 552 96828	470nF 20% 25V	2L02	4822 124 23002	10µF 16V
2B11	3198 035 71040	100nF 10% 16V 0402	2D54	4822 124 11131	47µF 6.3V	2L03	2020 552 96834	1µF 20% 6.3V 0402
2B12	3198 035 71040	100nF 10% 16V 0402	2D55	2020 552 96621	1.5nF 10% 50V 0402	2L04	2020 552 96834	1µF 20% 6.3V 0402
2B13	3198 035 71040	100nF 10% 16V 0402	2D55	3198 035 71040	100nF 10% 16V 0402	2L05	2020 552 96834	1µF 20% 6.3V 0402
2B14	3198 035 71040	100nF 10% 16V 0402	2D56	4822 124 23002	10µF 16V	2L06	2020 552 96834	1µF 20% 6.3V 0402
2B15	3198 035 71040	100nF 10% 16V 0402	2D57	4822 124 23002	10µF 16V	2L07	2020 552 96834	1µF 20% 6.3V 0402
2B16	3198 035 71040	100nF 10% 16V 0402	2D58	2020 552 96628	10nF 10% 16V 0402	2L08	2020 552 96834	1µF 20% 6.3V 0402
2B17	3198 035 71040	100nF 10% 16V 0402	2D59	2020 552 96628	10nF 10% 16V 0402	2L09	2020 552 96834	1µF 20% 6.3V 0402
2B18	5322 124 41945	22µF 20% 35V	2D63	2020 552 96628	10nF 10% 16V 0402	2L10	2020 552 96668	560pF 10% 50V
2C00	3198 035 71040	100nF 10% 16V 0402	2D64	3198 034 02280	2.2pF 1% 50V 0402	2L11	4822 124 23002	10µF 16V
2C01	4822 124 23002	10µF 16V	2D65	3198 034 02280	2.2pF 1% 50V 0402	2L12	2020 552 96834	1µF 20% 6.3V 0402
2C02	3198 035 71040	100nF 10% 16V 0402	2D66	3198 034 02280	2.2pF 1% 50V 0402	2L13	2020 552 96834	1µF 20% 6.3V 0402
2C03	3198 035 71040	100nF 10% 16V 0402	2D67	2238 586 59812	100nF 20% 50V 0603	2L14	2020 552 96834	1µF 20% 6.3V 0402
2C04	2020 552 96628	10nF 10% 16V 0402	2D68	2238 586 59812	100nF 20% 50V 0603	2L15	2020 552 96834	1µF 20% 6.3V 0402
2C05	2020 552 96628	10nF 10% 16V 0402	2D71	3198 034 01080	1pF 1% 50V 0402	2L16	2020 552 96834	1µF 20% 6.3V 0402
2D00	3198 035 71040	100nF 10% 16V 0402	2D71	3198 034 04780	4.7pF 50V NP0 0402	2L17	2020 552 96637	10µF 10% 6.3V 0805
2D01	3198 035 71040	100nF 10% 16V 0402	2D72	3198 034 01080	1pF 1% 50V 0402	2L18	2020 552 96834	1µF 20% 6.3V 0402
2D02	2020 552 00134	22µF 20% 6.3V 0805	2D72	3198 034 04780	4.7pF 50V NP0 0402	2L19	2020 552 96637	10µF 10% 6.3V 0805
2D02	2020 552 96637	10µF 10% 6.3V 0805	2D73	2020 552 96628	10nF 10% 16V 0402	2L20	2020 552 96834	1µF 20% 6.3V 0402
2D02	4822 124 23237	22µF 6.3V	2E00	2020 552 00027	4.7µF 2% 6.3V 0603	2L21	4822 124 12095	100µF 20% 16V
2D03	2238 869 15101	100pF 5% 50V 0402	2E01	2020 552 00027	4.7µF 2% 6.3V 0603	2L22	2020 552 96834	1µF 20% 6.3V 0402
2D04	2020 552 96628	1nF 10% 50V 0402	2E02	2020 552 00027	4.7µF 2% 6.3V 0603	2L23	2020 552 96834	1µF 20% 6.3V 0402
2D08	2020 552 96618	1nF 10% 50V 0402	2E03	3198 035 71040	100nF 10% 16V 0402	2L24	2020 552 96834	1µF 20% 6.3V 0402
2D09	2020 552 96618	1nF 10% 50V 0402	2E04	2020 552 00027	4.7µF 2% 6.3V 0603	2L25	2020 552 96834	1µF 20% 6.3V 0402
2D10	2020 552 96618	1nF 10% 50V 0402	2E05	2020 552 00027	4.7µF 2% 6.3V 0603	2L26	2020 552 00027	4.7µF 2% 6.3V 0603
2D11	2020 552 96618	1nF 10% 50V 0402	2E06	2020 552 00027	4.7µF 2% 6.3V 0603	2L27	2020 552 00027	4.7µF 2% 6.3V 0603
2D11	2022 552 05615	2.2µF 10% 6.3V 0805	2E07	4822 126 14324	33pF 5% 50V 0402	2L30	4822 124 12095	100µF 20% 16V
2D11	2250 200 13667	2.2µF 10% 6.3V 0805	2E08	2020 552 00027	4.7µF 2% 6.3V 0603	2L31	3198 035 71040	100nF 10% 16V 0402
2D12	2020 552 96618	1nF 10% 50V 0402	2E09	4822 126 14324	33pF 5% 50V 0402	2L32	2020 552 96834	1µF 20% 6.3V 0402
2D13	2020 552 96618	1nF 10% 50V 0402	2E10	2020 552 00027	4.7µF 2% 6.3V 0603	2L33	3198 035 71040	100nF 10% 16V 0402
2D14	2020 552 96618	1nF 10% 50V 0402	2E11	4822 126 14324	33pF 5% 50V 0402	2L34	4822 124 12095	100µF 20% 16V
2D14	2222 580 15649	100nF 10% 50V 0805	2E12	2020 552 00027	4.7µF 2% 6.3V 0603	2L35	4822 126 14519	22pF 5% 50V 0402
2D15	2020 552 96618	1nF 10% 50V 0402	2E13	3198 017 41050	1µF 10V 0603	2L36	4822 126 14519	22pF 5% 50V 0402
2D16	2020 552 96618	1nF 10% 50V 0402	2E14	4822 126 14324	33pF 5% 50V 0402	2L37	3198 035 71040	100nF 10% 16V 0402
2D17	2020 552 96618	1nF 10% 50V 0402	2E15	3198 035 71040	100nF 10% 16V 0402	2L51	3198 035 02210	220pF 5% 50V 0402
2D17	2222 580 15649	100nF 10% 50V 0805	2E16	3198 035 71040	100nF 10% 16V 0402	2L52	3198 035 04710	470pF 50V 0402
2D18	2020 552 96618	1nF 10% 50V 0402	2E17	3198 035 71040	100nF 10% 16V 0402	2L53	2020 552 96618	1nF 10% 50V 0402
2D19	2222 580 15649	100nF 10% 50V 0805	2E18	3198 035 71040	100nF 10% 16V 0402	2L61	3198 035 02210	220pF 5% 50V 0402
2D20	2222 580 15649	100nF 10% 50V 0805	2E19	3198 035 71040	100nF 10% 16V 0402	2L62	3198 035 04710	470pF 50V 0402
2D21	2020 552 96618	1nF 10% 50V 0402	2E20	4822 124 11131	47µF 6.3V	2L63	2020 552 96618	1nF 10% 50V 0402
2D21	2222 580 15649	100nF 10% 50V 0805	2E21	2020 552 00027	4.7µF 2% 6.3V 0603	2L71	2020 552 00027	4.7µF 2% 6.3V 0603
2D22	2020 021 00215	220µF 20% 25V	2E22	2020 552 00027	4.7µF 2% 6.3V 0603	2L72	3198 035 71040	100nF 10% 16V 0402
2D22	3198 035 71040	100nF 10% 16V 0402	2E23	2020 552 00027	4.7µF 2% 6.3V 0603	2L73	2020 552 96637	10µF 10% 6.3V 0805
2D23	2020 021 00215	220µF 20% 25V	2E24	3198 035 71040	100nF 10% 16V 0402	2L92	3198 035 74730	47nF 5% 16V 0402

2M08	3198 035 71040	100nF 10% 16V 0402	2N59	3198 035 71040	100nF 10% 16V 0402	3227	4822 117 13545	100Ω 1% 0402
2M09	3198 035 71040	100nF 10% 16V 0402	2N60	3198 035 71040	100nF 10% 16V 0402	3229	3198 031 04720	4.7kΩ 5% 0402
2M10	2020 552 96618	1nF 10% 50V 0402	2N61	3198 035 71040	100nF 10% 16V 0402	3230	4822 117 13606	10kΩ 5% 0.01W 0402
2M10	3198 035 71040	100nF 10% 16V 0402	2N62	3198 035 71040	100nF 10% 16V 0402	3231	4822 117 13602	2.2kΩ 5% 0.01W 0402
2M11	2020 552 96618	1nF 10% 50V 0402	2N63	3198 035 71040	100nF 10% 16V 0402	3232	3198 031 03320	3.3kΩ 5% 0402
2M11	3198 035 71040	100nF 10% 16V 0402	2N64	3198 035 71040	100nF 10% 16V 0402	3233	3198 031 03320	3.3kΩ 5% 0402
2M12	2020 552 96618	1nF 10% 50V 0402	2N65	3198 035 71040	100nF 10% 16V 0402	3234	3198 031 04720	4.7kΩ 5% 0402
2M12	3198 035 71040	100nF 10% 16V 0402	2N66	3198 035 71040	100nF 10% 16V 0402	3235	3198 031 04720	4.7kΩ 5% 0402
2M13	2020 552 96618	1nF 10% 50V 0402	2N67	3198 035 71040	100nF 10% 16V 0402	3236	3198 031 04720	4.7kΩ 5% 0402
2M13	3198 035 71040	100nF 10% 16V 0402	2N68	4822 124 12095	100μF 20% 16V	3238	4822 117 13545	100Ω 1% 0402
2M14	2020 552 96618	1nF 10% 50V 0402	2N69	2238 869 15101	100pF 5% 50V 0402	3239	4822 117 13545	100Ω 1% 0402
2M14	3198 035 71040	100nF 10% 16V 0402	2N75	3198 035 71040	100nF 10% 16V 0402	3240	2322 704 61002	1kΩ 1%
2M15	2020 552 96623	2.2nF 10% 50V 0402	2N76	2020 552 00027	4.7μF 2% 6.3V 0603	3241	4822 117 13545	100Ω 1% 0402
2M15	3198 035 71040	100nF 10% 16V 0402	2N80	2238 869 15109	10pF 5% 50V 0402	3242	4822 117 13606	10kΩ 5% 0.01W 0402
2M16	2020 552 96623	2.2nF 10% 50V 0402	2N81	2238 869 15109	10pF 5% 50V 0402	3243	3198 031 04720	4.7kΩ 5% 0402
2M16	3198 035 71040	100nF 10% 16V 0402	2N82	2238 869 15109	10pF 5% 50V 0402	3245	3198 031 02240	220kΩ 5% 0.1W 0402
2M17	2020 552 96623	2.2nF 10% 50V 0402	2N83	2238 869 15109	10pF 5% 50V 0402	3246	3198 031 04720	4.7kΩ 5% 0402
2M17	3198 035 71040	100nF 10% 16V 0402	2N84	2238 869 15109	10pF 5% 50V 0402	3247	4822 117 13545	100Ω 1% 0402
2M18	2020 552 96623	2.2nF 10% 50V 0402	2N85	2238 869 15109	10pF 5% 50V 0402	3248	4822 117 13545	100Ω 1% 0402
2M18	3198 035 71040	100nF 10% 16V 0402	2N86	2238 869 15109	10pF 5% 50V 0402	3249	3198 031 04720	4.7kΩ 5% 0402
2M19	2020 552 96618	1nF 10% 50V 0402	2N87	2238 869 15109	10pF 5% 50V 0402	3250	4822 117 13545	100Ω 1% 0402
2M19	3198 035 71040	100nF 10% 16V 0402	2N88	2238 869 15109	10pF 5% 50V 0402	3251	4822 117 13545	100Ω 1% 0402
2M20	3198 035 71040	100nF 10% 16V 0402	2N89	2238 869 15109	10pF 5% 50V 0402	3252	4822 117 13545	100Ω 1% 0402
2M21	2020 552 00183	2.2μF 10% 6.3V 0603	2N90	3198 035 71030	10nF 16V 0402	3253	4822 117 13545	100Ω 1% 0402
2M22	3198 035 71040	100nF 10% 16V 0402	2Q01	4822 124 23002	10μF 16V	3255	4822 117 13605	Jumper 0402
2M23	5322 124 41945	22μF 20% 35V	2Q02	2238 586 59812	100nF 20% 50V 0603	3256	4822 117 13605	Jumper 0402
2M24	3198 035 71040	100nF 10% 16V 0402	2Q03	2020 552 00027	4.7μF 2% 6.3V 0603	3257	4822 117 13605	Jumper 0402
2M25	3198 035 71040	100nF 10% 16V 0402	2Q04	2020 552 00027	4.7μF 2% 6.3V 0603	3258	4822 117 13548	1kΩ 5% 0402
2M26	3198 035 71040	100nF 10% 16V 0402	2Q13	4822 126 14508	180pF 5% 50V 0603	3259	4822 117 13548	1kΩ 5% 0402
2M27	3198 035 71040	100nF 10% 16V 0402	2Q14	4822 126 14508	180pF 5% 50V 0603	3260	4822 117 13548	1kΩ 5% 0402
2M28	3198 035 71040	100nF 10% 16V 0402	2Q15	2020 552 00183	2.2μF 10% 6.3V 0603	3262	4822 117 13601	22kΩ 5% 0402
2M29	3198 035 71040	100nF 10% 16V 0402	2Q16	2020 552 00183	2.2μF 10% 6.3V 0603	3263	2322 702 70398	3.9Ω 5% 0603
2M30	3198 035 71040	100nF 10% 16V 0402	2R00	4822 126 14508	180pF 5% 50V 0603	3264	4822 117 13601	22kΩ 5% 0402
2M31	5322 124 41945	22μF 20% 35V	2R01	2020 552 00183	2.2μF 10% 6.3V 0603	3265	2322 702 70398	3.9Ω 5% 0603
2M32	5322 124 41945	22μF 20% 35V	2R03	2020 552 00183	2.2μF 10% 6.3V 0603	3266	3198 031 05620	5.6kΩ 5% 0.01W 0402
2M56	5322 124 41945	22μF 20% 35V	2R04	4822 126 14508	180pF 5% 50V 0603	3267	3198 031 05620	5.6kΩ 5% 0.01W 0402
2M65	3198 035 71040	100nF 10% 16V 0402	2R05	2238 586 59812	100nF 20% 50V 0603	3268	4822 117 13545	100Ω 1% 0402
2M66	4822 124 12095	100μF 20% 16V	2R06	4822 126 14241	330pF 0603 50V	3272	3198 031 04720	4.7kΩ 5% 0402
2M67	3198 035 71040	100nF 10% 16V 0402	2R07	4822 126 14241	330pF 0603 50V	3273	4822 117 13548	1kΩ 5% 0402
2M68	4822 124 12095	100μF 20% 16V	2R12	2020 552 94427	100pF 5% 50V	3274	3198 031 03910	390Ω 1% 0402
2N01	3198 035 71040	100nF 10% 16V 0402	2R14	2020 552 94427	100pF 5% 50V	3275	4822 117 13545	100Ω 1% 0402
2N02	3198 035 71040	100nF 10% 16V 0402	2R15	2238 586 59812	100nF 20% 50V 0603	3276	3198 031 07590	75Ω 5% 0402
2N03	3198 035 71040	100nF 10% 16V 0402	2R16	2020 552 00183	2.2μF 10% 6.3V 0603	3277	3198 031 01520	1.2kΩ 5% 0.01W 0402
2N04	3198 035 71040	100nF 10% 16V 0402	2R17	4822 126 14508	180pF 5% 50V 0603	3281	3198 031 03930	39kΩ 5% 0402
2N05	3198 035 71040	100nF 10% 16V 0402	2R18	2020 552 00183	2.2μF 10% 6.3V 0603	3285	4822 117 13605	Jumper 0402
2N06	3198 035 71040	100nF 10% 16V 0402	2R19	4822 126 14508	180pF 5% 50V 0603	3286	4822 117 13545	100Ω 1% 0402
2N07	3198 035 71040	100nF 10% 16V 0402	2R50	4822 126 14508	180pF 5% 50V 0603	3295▲	4822 117 11297	100kΩ 5% 0.1W
2N08	3198 035 71040	100nF 10% 16V 0402	2R51	2020 552 00183	2.2μF 10% 6.3V 0603	3297	3198 031 03320	3.3kΩ 5% 0402
2N09	3198 035 71040	100nF 10% 16V 0402	2R54	2020 552 00183	2.2μF 10% 6.3V 0603	3298	3198 031 03320	3.3kΩ 5% 0402
2N10	3198 035 71040	100nF 10% 16V 0402	2R55	4822 126 14508	180pF 5% 50V 0603	3299	3198 031 04720	4.7kΩ 5% 0402
2N11	3198 035 71040	100nF 10% 16V 0402				3431	4822 117 13548	1kΩ 5% 0402
2N12	3198 035 71040	100nF 10% 16V 0402				3451	3198 031 04720	4.7kΩ 5% 0402
2N13	3198 035 71040	100nF 10% 16V 0402				3453	4822 117 13545	100Ω 1% 0402
2N14	3198 035 71040	100nF 10% 16V 0402				3454	4822 117 13545	100Ω 1% 0402
2N15	3198 035 71040	100nF 10% 16V 0402				3455	4822 117 13545	100Ω 1% 0402
2N16	3198 035 71040	100nF 10% 16V 0402				3456	4822 117 13545	100Ω 1% 0402
2N17	4822 124 11131	47μF 6.3V				3458	4822 117 13545	100Ω 1% 0402
2N19	3198 035 71040	100nF 10% 16V 0402				3459	4822 117 13545	100Ω 1% 0402
2N20	3198 035 71040	100nF 10% 16V 0402				3461	4822 117 13545	100Ω 1% 0402
2N21	3198 035 71040	100nF 10% 16V 0402				3462	4822 117 13545	100Ω 1% 0402
2N22	3198 035 71040	100nF 10% 16V 0402				3604	4822 117 13601	22kΩ 5% 0402
2N23	3198 035 71040	100nF 10% 16V 0402				3605	4822 117 13601	22kΩ 5% 0402
2N24	4822 124 11131	47μF 6.3V				3609	4822 117 13601	22kΩ 5% 0402
2N25	4822 124 11131	47μF 6.3V				3610	4822 117 11297	100kΩ 5% 0.1W
2N26	3198 035 71040	100nF 10% 16V 0402				3611	4822 117 11297	100kΩ 5% 0.1W
2N27	3198 035 71040	100nF 10% 16V 0402				3612	4822 117 13601	22kΩ 5% 0402
2N28	2020 552 00027	4.7μF 2% 6.3V 0603				3616	4822 117 13605	Jumper 0402
2N29	3198 035 71040	100nF 10% 16V 0402				3617	4822 117 13548	1kΩ 5% 0402
2N30	3198 035 71040	100nF 10% 16V 0402				3619	4822 117 13606	10kΩ 5% 0.01W 0402
2N31	3198 035 71040	100nF 10% 16V 0402				3628	4822 117 13606	10kΩ 5% 0.01W 0402
2N32	3198 035 71040	100nF 10% 16V 0402				3629	4822 117 13601	22kΩ 5% 0402
2N33	3198 035 71040	100nF 10% 16V 0402				3630	4822 117 13602	2.2kΩ 5% 0.01W 0402
2N35	3198 035 71040	100nF 10% 16V 0402				3631	4822 117 13602	2.2kΩ 5% 0.01W 0402
2N36	3198 035 71040	100nF 10% 16V 0402				3632	2322 705 70569	56Ω 5% 0402
2N37	3198 035 71040	100nF 10% 16V 0402				3633	2322 705 70569	56Ω 5% 0402
2N38	3198 035 71040	100nF 10% 16V 0402				3701	4822 117 13606	10kΩ 5% 0.01W 0402
2N39	3198 035 71040	100nF 10% 16V 0402				3702	4822 117 13606	10kΩ 5% 0.01W 0402
2N40	3198 035 71040	100nF 10% 16V 0402				3709	3198 031 06820	6.8kΩ 5% 0.01W 0402
2N41	3198 035 71040	100nF 10% 16V 0402				3719	3198 031 01220	1.2kΩ 5% 0.01W 0402
2N42	3198 035 71040	100nF 10% 16V 0402				3720	4822 117 13613	2.2Ω 5% 0603
2N43	3198 035 71040	100nF 10% 16V 0402				3721	4822 117 13613	2.2Ω 5% 0603
2N44	3198 035 71040	100nF 10% 16V 0402				3722	3198 031 02720	2.7kΩ 5% 0.01W 0402
2N45	3198 035 71040	100nF 10% 16V 0402				3723	4822 051 20109	10Ω 5% 0.1W
2N46	3198 035 71040	100nF 10% 16V 0402				3724	3198 031 01530	15kΩ 5% 0.01W 0402
2N47	3198 035 71040	100nF 10% 16V 0402				3725	2322 704 63302	3.3kΩ 1% 0603
2N48	3198 035 71040	100nF 10% 16V 0402				3726	3198 031 01220	1.2kΩ 5% 0.01W 0402
2N49	3198 035 71040	100nF 10% 16V 0402				3727	2322 704 61002	1kΩ 1%
2N50	3198 035 71040	100nF 10% 16V 0402				3732	2322 704 61002	1kΩ 1%
2N51	4822 124 11131	47μF 6.3V				3733	2322 704 63302	3.3kΩ 1% 0603
2N54	3198 030 74780	4u7 20% 35V				3734	4822 117 13545	100Ω 1% 0402
2N55	3198 035 71040	100nF 10% 16V 0402				3735	4822 117 13548	1kΩ 5% 0402
2N56	3198 035 71040	100nF 10% 16V 0402				3736	3198 031 04720	4.7kΩ 5% 0402
2N57	3198 035 71040	100nF 10% 1						

3742	3198 031 01530	15kΩ 5% 0.01W 0402	3D20	4822 117 13601	22kΩ 5% 0402	3E46	4822 117 13545	100Ω 1% 0402
3743	4822 117 13601	22kΩ 5% 0402	3D21	3198 031 02720	2.7kΩ 5% 0.01W 0402	3E49	3198 031 02290	22Ω 5% 0.1W 0402
3800	4822 117 13606	10kΩ 5% 0.01W 0402	3D21	3198 031 13390	4 x 33Ω 5% 1206	3E50	3198 031 04730	47Ω 5% 0402
3801	2350 035 10229	4 x 22Ω 5% 1206	3D22	3198 031 03390	33Ω 1% 0402	3E51	3198 031 04730	47Ω 5% 0402
3802	2350 035 10229	4 x 22Ω 5% 1206	3D22	4822 117 13606	10kΩ 5% 0.01W 0402	3E52	3198 031 04730	47Ω 5% 0402
3803	2350 035 10229	4 x 22Ω 5% 1206	3D23	3198 031 03390	33Ω 1% 0402	3E53	3198 031 04730	47Ω 5% 0402
3804	2350 035 10229	4 x 22Ω 5% 1206	3D23	4822 117 13602	2.2kΩ 5% 0.01W 0402	3E54	3198 031 04730	47Ω 5% 0402
3805	2350 035 10229	4 x 22Ω 5% 1206	3D24	4822 117 13596	220Ω 5% 0.01W 0402	3E55	3198 031 04730	47Ω 5% 0402
3806	2350 035 10229	4 x 22Ω 5% 1206	3D24	4822 117 13606	10kΩ 5% 0.01W 0402	3E57	3198 031 01090	10Ω 5% 0.01W 0402
3807	2350 035 10229	4 x 22Ω 5% 1206	3D25	4822 117 13548	1kΩ 5% 0402	3J05	3198 031 06890	68Ω 5% 0402
3808	2350 035 10229	4 x 22Ω 5% 1206	3D26	4822 117 13596	220Ω 5% 0.01W 0402	3K00	4822 117 13545	100Ω 1% 0402
3809	2350 035 10229	4 x 22Ω 5% 1206	3D26	4822 117 13602	2.2kΩ 5% 0.01W 0402	3K01	4822 117 13545	100Ω 1% 0402
3810	2350 035 10229	4 x 22Ω 5% 1206	3D27	3198 031 03320	3.3kΩ 5% 0402	3K02	4822 117 13606	10kΩ 5% 0.01W 0402
3811	2350 035 10229	4 x 22Ω 5% 1206	3D34	2322 762 60332	3.3kΩ 5% 2512	3K05	4822 117 13606	10kΩ 5% 0.01W 0402
3812	2350 035 10229	4 x 22Ω 5% 1206	3D35	4822 117 13548	1kΩ 5% 0402	3K07	2322 705 70399	39Ω 5% 0402
3813	2350 035 10229	4 x 22Ω 5% 1206	3D37	2322 762 60332	3.3kΩ 5% 2512	3K09	2322 705 70399	39Ω 5% 0402
3814	3198 031 02290	22Ω 5% 0.1W 0402	3D38	4822 117 13548	1kΩ 5% 0402	3K11	3198 031 06890	68Ω 5% 0402
3815	3198 031 02290	22Ω 5% 0.1W 0402	3D39	2350 033 11223	22kΩ 5%	3K12	3198 031 06890	68Ω 5% 0402
3816	3198 031 02290	22Ω 5% 0.1W 0402	3D40	2350 033 11223	22kΩ 5%	3L01	2350 033 11229	4x 22Ω 5% Netw.
3817	4822 117 13606	10kΩ 5% 0.01W 0402	3D42	3198 031 04730	47Ω 5% 0402	3L02	2350 033 11229	4x 22Ω 5% Netw.
3818	4822 117 13606	10kΩ 5% 0.01W 0402	3D43	5322 117 11726	10Ω 5%	3L05	2350 033 11229	4x 22Ω 5% Netw.
3820	4822 117 13606	10kΩ 5% 0.01W 0402	3D44	2322 762 60331	330Ω 5% 2512	3L06	2350 033 11229	4x 22Ω 5% Netw.
3822	4822 117 13545	100Ω 1% 0402	3D45	2322 762 60331	330Ω 5% 2512	3L07	3198 031 02290	22Ω 5% 0.1W 0402
3824	3198 031 03320	3.3kΩ 5% 0402	3D46	3198 031 04780	4.7Ω 5% 0402	3L09	3198 021 32290	22Ω 5% 0603
3825	3198 031 11030	4 x 10kΩ 5% 1206	3D47	3198 031 04780	4.7Ω 5% 0402	3L10	3198 021 32290	22Ω 5% 0603
3826	3198 031 11030	4 x 10kΩ 5% 1206	3D49	3198 031 01530	15kΩ 5% 0.01W 0402	3L12	4822 117 13606	10kΩ 5% 0.01W 0402
3827	4822 117 13606	10kΩ 5% 0.01W 0402	3D50	3198 031 06820	6.8kΩ 5% 0.01W 0402	3L13	3198 031 03910	390Ω 1% 0402
3828	4822 117 13606	10kΩ 5% 0.01W 0402	3D51	3198 031 06820	6.8kΩ 5% 0.01W 0402	3L18	3198 031 01510	150Ω 5% 0.01W 0402
3829	4822 117 13606	10kΩ 5% 0.01W 0402	3D54	3198 031 04730	47Ω 5% 0402	3L19	3198 031 01510	150Ω 5% 0.01W 0402
3831	4822 117 13545	100Ω 1% 0402	3D56	3198 031 01530	15kΩ 5% 0.01W 0402	3L38	4822 051 30222	2.2kΩ 5% 0.062W
3832	4822 117 13545	100Ω 1% 0402	3D57	3198 031 01530	15kΩ 5% 0.01W 0402	3L39	4822 051 30222	2.2kΩ 5% 0.062W
3834	4822 117 13606	10kΩ 5% 0.01W 0402	3D58	3198 031 06810	680Ω 5% 0.01W 0402	3L49	4822 117 13548	1kΩ 5% 0402
3835	4822 117 13606	10kΩ 5% 0.01W 0402	3D64	4822 117 13548	1kΩ 5% 0402	3L53	4822 117 13597	330Ω 5% 0.01W 0402
3836	4822 117 13606	10kΩ 5% 0.01W 0402	3D65	4822 117 13548	1kΩ 5% 0402	3L54	4822 117 13543	470Ω 5% 0402
3837	4822 117 13606	10kΩ 5% 0.01W 0402	3D67	3198 031 03920	3.9kΩ 5% 0402	3L55	4822 117 13545	100Ω 1% 0402
3838	4822 117 13606	10kΩ 5% 0.01W 0402	3D68	4822 117 11297	100kΩ 5% 0.1W	3L56	4822 117 13548	1kΩ 5% 0402
3839	4822 117 13545	100Ω 1% 0402	3D69	3198 031 03920	3.9kΩ 5% 0402	3L57	4822 117 13545	100Ω 1% 0402
3840	3198 031 02290	22Ω 5% 0.1W 0402	3D70	4822 117 11297	100kΩ 5% 0.1W	3L58	4822 117 13548	1kΩ 5% 0402
3841	4822 117 13606	10kΩ 5% 0.01W 0402	3D71	4822 117 13606	10kΩ 5% 0.01W 0402	3L60	4822 117 13605	Jumper 0402
3842	4822 117 13606	10kΩ 5% 0.01W 0402	3D72	4822 117 13606	10kΩ 5% 0.01W 0402	3L61	4822 117 13597	330Ω 5% 0.01W 0402
3900	3198 031 03320	3.3kΩ 5% 0402	3D73	3198 031 05610	560Ω 5% 0.01W 0402	3L62	4822 117 13543	470Ω 5% 0402
3901	4822 117 13606	10kΩ 5% 0.01W 0402	3D74	3198 031 05610	560Ω 5% 0.01W 0402	3L63	4822 117 13545	100Ω 1% 0402
3902	4822 117 13606	10kΩ 5% 0.01W 0402	3D75	3198 031 04730	47Ω 5% 0402	3L64	4822 117 13548	1kΩ 5% 0402
3903	4822 117 13545	100Ω 1% 0402	3D76	4822 117 13601	22kΩ 5% 0402	3L65	4822 117 13545	100Ω 1% 0402
3904	4822 117 13545	100Ω 1% 0402	3D78	4822 117 13601	22kΩ 5% 0402	3L67	4822 117 13605	Jumper 0402
3A10	4822 117 13606	10kΩ 5% 0.01W 0402	3D79	4822 117 13601	22kΩ 5% 0402	3L68	4822 117 13605	Jumper 0402
3A11	4822 117 13606	10kΩ 5% 0.01W 0402	3D81	3198 031 06810	680Ω 5% 0.01W 0402	3L71	4822 117 13597	330Ω 5% 0.01W 0402
3A13	4822 117 13606	10kΩ 5% 0.01W 0402	3D82	3198 031 04730	47Ω 5% 0402	3L73	4822 117 13545	100Ω 1% 0402
3A14	3198 031 04720	4.7kΩ 5% 0402	3D83	3198 031 04730	47Ω 5% 0402	3L75	4822 051 30153	15kΩ 5% 0.062W
3B01	4822 117 12706	10kΩ 1% 0.063W 0603	3D84	3198 031 04730	47Ω 5% 0402	3L76	4822 051 30153	15kΩ 5% 0.062W
3B02	4822 117 12706	10kΩ 1% 0.063W 0603	3D85	3198 031 04730	47Ω 5% 0402	3L92	3198 031 03390	33Ω 1% 0402
3B03	2322 704 61501	150Ω 1% 0603	3D86	4822 117 11297	100kΩ 5% 0.1W	3L93	3198 031 06890	68Ω 5% 0402
3C00	4822 117 13606	10kΩ 5% 0.01W 0402	3D87	3198 031 04730	47Ω 5% 0402	3L94	3198 031 03910	390Ω 1% 0402
3C01	4822 117 13606	10kΩ 5% 0.01W 0402	3D88	4822 117 13603	33kΩ 5% 0402	3L95	4822 117 13605	Jumper 0402
3C02	4822 117 13548	1kΩ 5% 0402	3D89	4822 117 13601	22kΩ 5% 0402	3L96	4822 117 13605	Jumper 0402
3C04	3198 031 11030	4 x 10kΩ 5% 1206	3D91	4822 117 13603	33kΩ 5% 0402	3L97	3198 031 03390	33Ω 1% 0402
3C05	4822 117 13606	10kΩ 5% 0.01W 0402	3E00	2322 705 70569	56Ω 5% 0402	3L98	3198 031 06890	68Ω 5% 0402
3C06	3198 031 11030	4 x 10kΩ 5% 1206	3E01	2322 705 70569	56Ω 5% 0402	3L99	3198 031 03910	390Ω 1% 0402
3C07	3198 031 11030	4 x 10kΩ 5% 1206	3E02	2322 705 70569	56Ω 5% 0402	3M01	2350 035 10689	4 x 68Ω 5%
3C08	3198 031 11030	4 x 10kΩ 5% 1206	3E06	3198 031 04730	47Ω 5% 0402	3M02	2350 035 10689	4 x 68Ω 5%
3C09	3198 031 11030	4 x 10kΩ 5% 1206	3E07	3198 031 04730	47Ω 5% 0402	3M03	2350 035 10689	4 x 68Ω 5%
3C10	3198 031 11030	4 x 10kΩ 5% 1206	3E08	3198 031 04730	47Ω 5% 0402	3M04	2350 035 10689	4 x 68Ω 5%
3C16	3198 031 11030	4 x 10kΩ 5% 1206	3E09	3198 031 04730	47Ω 5% 0402	3M04	4822 117 13545	100Ω 1% 0402
3C17	4822 117 13606	10kΩ 5% 0.01W 0402	3E10	3198 031 04730	47Ω 5% 0402	3M06	2350 035 10229	4 x 22Ω 5% 1206
3C18	4822 117 13606	10kΩ 5% 0.01W 0402	3E11	3198 031 04730	47Ω 5% 0402	3M07	2350 035 10229	4 x 22Ω 5% 1206
3C22	4822 117 13548	1kΩ 5% 0402	3E12	4822 117 13606	10kΩ 5% 0.01W 0402	3M08	2350 035 10229	4 x 22Ω 5% 1206
3C23	3198 031 02240	220kΩ 5% 0.1W 0402	3E13	4822 117 13597	330Ω 5% 0.01W 0402	3M09	2350 035 10229	4 x 22Ω 5% 1206
3D00	3198 031 04720	4.7kΩ 5% 0402	3E14	4822 117 13597	330Ω 5% 0.01W 0402	3M11	3198 031 04720	4.7kΩ 5% 0402
3D01	3198 031 02240	220kΩ 5% 0.1W 0402	3E15	4822 117 13597	330Ω 5% 0.01W 0402	3M13	3198 031 04720	4.7kΩ 5% 0402
3D01	3198 031 04730	47Ω 5% 0402	3E16	4822 117 13597	330Ω 5% 0.01W 0402	3M14	4822 117 13545	100Ω 1% 0402
3D01	4822 117 11297	100kΩ 5% 0.1W	3E17	4822 117 13597	330Ω 5% 0.01W 0402	3M15	4822 117 13545	100Ω 1% 0402
3D02	3198 031 04720	4.7kΩ 5% 0402	3E18	4822 117 13597	330Ω 5% 0.01W 0402	3M16	3198 031 04720	4.7kΩ 5% 0402
3D03	3198 031 04730	47Ω 5% 0402	3E19	2322 705 70569	56Ω 5% 0402	3M50	4822 117 13606	10kΩ 5% 0.01W 0402
3D05	4822 117 13545	100Ω 1% 0402	3E20	2322 705 70569	56Ω 5% 0402	3M51	4822 117 13606	10kΩ 5% 0.01W 0402
3D06	4822 117 13545	100Ω 1% 0402	3E21	2322 705 70569	56Ω 5% 0402	3M52	4822 117 13606	10kΩ 5% 0.01W 0402
3D07	2322 704 61002	1kΩ 1%	3E22	4822 117 13632	100kΩ 1% 0603 0.62W	3M53	4822 117 13546	47Ω 5% 0402
3D08	2322 704 61002	1kΩ 1%	3E23	3198 031 08210	820Ω 5% 0.5W	3M54	4822 117 13546	47Ω 5% 0402
3D09	3198 031 04730	47Ω 5% 0402	3E24	4822 117 13543	470Ω 5% 0402	3M55	4822 117 13546	47Ω 5% 0402
3D10	3198 031 04730	47Ω 5% 0402	3E25	2322 705 70399	39Ω 5% 0402	3M56	4822 117 13606	10kΩ 5% 0.01W 0402
3D11	3198 031 05620	5.6kΩ 5% 0.01W 0402	3E26	3198 031 02290	22Ω 5% 0.1W 0402	3M57	4822 117 13546	47Ω 5% 0402
3D11	4822 117 13601	22kΩ 5% 0402	3E27	2322 705 70399	39Ω 5% 0402	3M58	4822 117 13606	10kΩ 5% 0.01W 0402
3D12	4822 117 13601	22kΩ 5% 0402	3E28	3198 031 02290	22Ω 5% 0.1W 0402	3M59	4822 117 13546	47Ω 5% 0402
3D13	3198 031 02720	2.7kΩ 5% 0.01W 0402	3E29	2322 705 70399	39Ω 5% 0402	3M78	4822 117 13548	1kΩ 5% 0402
3D14	3198 031 02240	220kΩ 5% 0.1W 0402	3E30	3198 031 02290	22Ω 5% 0.1W 0402	3M79	3198 031 03320	3.3kΩ 5% 0402
3D15	3198 031 04740	470kΩ 5						

3N12	3198 031 04720	4.7kΩ 5% 0402	4615	4822 051 30008	Jumper 0603	5D13	2422 536 00137	33μH 10%
3N14	3198 031 04720	4.7kΩ 5% 0402	4616	4822 051 30008	Jumper 0603	5D13	2422 536 00707	33μH 20%
3N15	3198 031 04720	4.7kΩ 5% 0402	4618	4822 051 30008	Jumper 0603	5D14	2422 549 44197	Bead 220Ω at 100MHz
3N16	3198 031 04720	4.7kΩ 5% 0402	4619	4822 051 30008	Jumper 0603	5D15	2422 549 44197	Bead 220Ω at 100MHz
3N17	3198 031 04720	4.7kΩ 5% 0402	4620	4822 051 30008	Jumper 0603	5D16	2422 549 44197	Bead 220Ω at 100MHz
3N20	4822 117 13545	100Ω 1% 0402	4801	4822 117 13605	Jumper 0402	5E00	2422 549 45333	Bead 120Ω at 100MHz
3N21	4822 117 13545	100Ω 1% 0402	4D03	4822 117 13605	Jumper 0402	5E01	2422 549 45333	Bead 120Ω at 100MHz
3N22	3198 031 04720	4.7kΩ 5% 0402	4D04	4822 117 13605	Jumper 0402	5E02	2422 549 45333	Bead 120Ω at 100MHz
3N23	3198 031 04720	4.7kΩ 5% 0402	4E01	4822 117 13605	Jumper 0402	5E03	2422 549 45333	Bead 120Ω at 100MHz
3N26	3198 031 04720	4.7kΩ 5% 0402	4J01	4822 117 13605	Jumper 0402	5J01	2422 549 42896	Bead 120Ω 100MHz
3N27	3198 031 04720	4.7kΩ 5% 0402	4K02	4822 051 30008	Jumper 0603	5J02	2422 549 42896	Bead 120Ω 100MHz
3N28	3198 031 04720	4.7kΩ 5% 0402	4K04	4822 117 13605	Jumper 0402	5J03	2422 549 45333	Bead 120Ω at 100MHz
3N29	4822 117 13545	100Ω 1% 0402	4K05	4822 117 13605	Jumper 0402	5J04	2422 549 45333	Bead 120Ω at 100MHz
3N30	4822 117 13606	10kΩ 5% 0.01W 0402	4K07	4822 051 30008	Jumper 0603	5K00	3198 018 51080	1μH 10% 0603
3N31	3198 031 04720	4.7kΩ 5% 0402	4L37	4822 117 13545	100Ω 1% 0402	5K01	3198 018 51080	1μH 10% 0603
3N71	3198 031 04720	4.7kΩ 5% 0402	4M00	4822 117 13605	Jumper 0402	5K02	3198 018 51080	1μH 10% 0603
3N72	3198 031 04720	4.7kΩ 5% 0402	4M01	4822 117 13605	Jumper 0402	5L01	2422 549 45333	Bead 120Ω at 100MHz
3N73	3198 031 04720	4.7kΩ 5% 0402	4M02	4822 117 13605	Jumper 0402	5L11	2422 549 45333	Bead 120Ω at 100MHz
3Q01	4822 051 30102	1kΩ 5% 0.062W	4M03	4822 117 13605	Jumper 0402	5L17	2422 549 45333	Bead 120Ω at 100MHz
3Q02	4822 051 30222	2.2kΩ 5% 0.062W	4M05	4822 117 13605	Jumper 0402	5L19	2422 549 45333	Bead 120Ω at 100MHz
3Q03	4822 051 30102	1kΩ 5% 0.062W	4M08	4822 117 13605	Jumper 0402	5L21	2422 549 45333	Bead 120Ω at 100MHz
3Q04	4822 051 30222	2.2kΩ 5% 0.062W	4M09	4822 117 13605	Jumper 0402	5L51	4822 157 71694	0.82μH 10%
3Q05	4822 117 13603	33kΩ 5% 0402	4M10	4822 117 13605	Jumper 0402	5L52	3198 018 53380	3.3μH 10% 0603
3Q06	4822 117 13603	33kΩ 5% 0402	4M16	4822 117 13605	Jumper 0402	5L53	3198 018 56880	6.8μH 10% 0603
3Q07	4822 117 13603	33kΩ 5% 0402	4M17	4822 117 13605	Jumper 0402	5L61	4822 157 71694	0.82μH 10%
3Q08	4822 117 13603	33kΩ 5% 0402	4N11	4822 117 13605	Jumper 0402	5L62	3198 018 53380	3.3μH 10% 0603
3Q09	4822 117 13603	33kΩ 5% 0402	4N12	4822 117 13605	Jumper 0402	5L63	3198 018 56880	6.8μH 10% 0603
3Q10	4822 117 13603	33kΩ 5% 0402	4N13	4822 117 13605	Jumper 0402	5L71	2422 549 45333	Bead 120Ω at 100MHz
3Q11	4822 117 13603	33kΩ 5% 0402	4N30	4822 117 13605	Jumper 0402	5M00	2422 549 45333	Bead 120Ω at 100MHz
3Q12	4822 117 13603	33kΩ 5% 0402	4N31	4822 117 13605	Jumper 0402	5M01	2422 549 45333	Bead 120Ω at 100MHz
3Q13	4822 117 13603	33kΩ 5% 0402	4N34	4822 117 13605	Jumper 0402	5M02	2422 549 44197	Bead 220Ω at 100MHz
3Q14	4822 117 13603	33kΩ 5% 0402	4N35	4822 117 13605	Jumper 0402	5M02	2422 549 45333	Bead 120Ω at 100MHz
3Q15	4822 117 13603	33kΩ 5% 0402	4R64	4822 051 30008	Jumper 0603	5M03	2422 549 44197	Bead 220Ω at 100MHz
3Q16	4822 117 13603	33kΩ 5% 0402	4R68	4822 051 30008	Jumper 0603	5M03	2422 549 45333	Bead 120Ω at 100MHz
3Q17	4822 117 13603	33kΩ 5% 0402	4R69	4822 051 30008	Jumper 0603	5M04	2422 549 45333	Bead 120Ω at 100MHz
3Q18	4822 117 13603	33kΩ 5% 0402	4R70	4822 051 30008	Jumper 0603	5M05	2422 549 45333	Bead 120Ω at 100MHz
3Q19	4822 117 13603	33kΩ 5% 0402	9D03	2350 033 91001	4 x Jumper	5M09	2422 549 44197	Bead 220Ω at 100MHz
3Q20	4822 117 13603	33kΩ 5% 0402	9D04	2350 033 91001	4 x Jumper	5M10	2422 549 44197	Bead 220Ω at 100MHz
3Q24	4822 051 30103	10kΩ 5% 0.062W				5M11	2422 549 44197	Bead 220Ω at 100MHz
3Q25	4822 051 30103	10kΩ 5% 0.062W				5M12	2422 549 44197	Bead 220Ω at 100MHz
3Q26	4822 051 30153	15kΩ 5% 0.062W				5N03	4822 157 11716	Bead 30Ω at 100MHz
3Q27	4822 051 30153	15kΩ 5% 0.062W				5N04	4822 157 11716	Bead 30Ω at 100MHz
3Q28	4822 117 13545	100Ω 1% 0402	5101	3198 018 33970	0.39μH 10% 0805	5N05	4822 157 11716	Bead 30Ω at 100MHz
3Q29	4822 117 13602	2.2kΩ 5% 0.01W 0402	5102	4822 157 71334	0.68μH 5% 1008	5N06	4822 157 11716	Bead 30Ω at 100MHz
3Q30	4822 117 13545	100Ω 1% 0402	5103	4822 157 71334	0.68μH 5% 1008	5N07	4822 157 11716	Bead 30Ω at 100MHz
3Q31	4822 117 13602	2.2kΩ 5% 0.01W 0402	5201	4822 157 11716	Bead 30Ω at 100MHz	5N10	4822 157 11716	Bead 30Ω at 100MHz
3R00	4822 051 30103	10kΩ 5% 0.062W	5202	4822 157 11716	Bead 30Ω at 100MHz	5N11	4822 157 11716	Bead 30Ω at 100MHz
3R01	4822 051 30151	150Ω 5% 0.062W	5203	4822 157 11716	Bead 30Ω at 100MHz	5N12	4822 157 11716	Bead 30Ω at 100MHz
3R02	4822 051 30102	1kΩ 5% 0.062W	5204	2422 549 42896	Bead 120Ω 100MHz	5N72	4822 157 11716	Bead 30Ω at 100MHz
3R03	4822 051 30103	10kΩ 5% 0.062W	5205	4822 157 11716	Bead 30Ω at 100MHz	5R01	2422 549 45333	Bead 120Ω at 100MHz
3R04	4822 051 30103	10kΩ 5% 0.062W	5206	4822 157 11716	Bead 30Ω at 100MHz	5R02	2422 549 45333	Bead 120Ω at 100MHz
3R05	4822 051 30759	75Ω 5% 0.062W	5207	2422 549 42896	Bead 120Ω 100MHz	5R03	2422 549 45333	Bead 120Ω at 100MHz
3R06	4822 051 30759	75Ω 5% 0.062W	5208	4822 157 11716	Bead 30Ω at 100MHz	5R04	2422 549 45333	Bead 120Ω at 100MHz
3R07	4822 051 30759	75Ω 5% 0.062W	5209	4822 157 11716	Bead 30Ω at 100MHz	5R05	2422 549 45333	Bead 120Ω at 100MHz
3R09	4822 051 30221	220Ω 5% 0.062W	5210	4822 157 11716	Bead 30Ω at 100MHz	5R06	2422 549 45333	Bead 120Ω at 100MHz
3R10	4822 051 30222	2.2kΩ 5% 0.062W	5211	4822 157 11716	Bead 30Ω at 100MHz			
3R11	4822 051 30221	220Ω 5% 0.062W	5212	4822 157 11716	Bead 30Ω at 100MHz			
3R12	4822 051 30222	2.2kΩ 5% 0.062W	5213	4822 157 11716	Bead 30Ω at 100MHz			
3R13	4822 051 30103	10kΩ 5% 0.062W	5214	2422 536 00667	1000μH 20% 7032			
3R15	4822 051 30103	10kΩ 5% 0.062W	5216	4822 157 11716	Bead 30Ω at 100MHz	6101	4822 130 11416	PDZ6.8B
3R16	4822 051 30759	75Ω 5% 0.062W	5704	2422 549 45333	Bead 120Ω at 100MHz	6102	4822 130 11416	PDZ6.8B
3R17	4822 051 30101	100Ω 5% 0.062W	5709	2422 535 94134	10μH 20% 0805	6104	4822 130 11525	1S356
3R18	4822 051 30103	10kΩ 5% 0.062W	5713	2422 536 01218	3.3μH 30%	6105	4822 130 11525	1S356
3R20	4822 051 30103	10kΩ 5% 0.062W	5717	2422 536 00671	10μH 20%	6204	4822 130 80622	BAT54
3R21	4822 051 30103	10kΩ 5% 0.062W	5730	2422 535 94134	10μH 20% 0805	6205	4822 130 80622	BAT54
3R22	4822 051 30759	75Ω 5% 0.062W	5733	2422 536 00707	33μH 20%	6430	9340 548 42115	PDZ2.4B
3R23	4822 051 30101	100Ω 5% 0.062W	5735	2422 536 00516	100μH 20%	6431	9965 000 20150	1N4148WS SOD-323
3R28	4822 051 30759	75Ω 5% 0.062W	5737	2422 535 94134	10μH 20% 0805	6601	4822 130 10838	UDZ3.3B
3R29	4822 051 30101	100Ω 5% 0.062W	5738	2422 549 45333	Bead 120Ω at 100MHz	6717	4822 130 11397	BAS316
3R30	4822 051 30101	100Ω 5% 0.062W	5751	2422 535 94134	10μH 20% 0805	6718	3198 010 10720	SS24
3R31	4822 051 30101	100Ω 5% 0.062W	5900	2422 549 45333	Bead 120Ω at 100MHz	6733	9322 128 70685	SMSS14
3R51	4822 051 30103	10kΩ 5% 0.062W	5901	2422 549 45333	Bead 120Ω at 100MHz	6734	4822 130 11416	PDZ6.8B
3R53	4822 051 30153	15kΩ 5% 0.062W	5902	2422 549 45333	Bead 120Ω at 100MHz	6735	5322 130 34337	BAV99
3R54	4822 051 30103	10kΩ 5% 0.062W	5903	2422 549 45333	Bead 120Ω at 100MHz	6736	9340 548 71115	PDZ33B
3R56	4822 051 30153	15kΩ 5% 0.062W	5904	2422 549 45333	Bead 120Ω at 100MHz	6740	4822 130 10837	UDZS8.2B
3R57	4822 051 30101	100Ω 5% 0.062W	5905	2422 549 45333	Bead 120Ω at 100MHz	6D10	4822 130 11397	BAS316
3R58	4822 051 30759	75Ω 5% 0.062W	5906	2422 549 45333	Bead 120Ω at 100MHz	6D11	9340 548 69115	PDZ27B
3R78	4822 117 12925	47kΩ 1% 0.063W 0603	5907	2422 549 45333	Bead 120Ω at 100MHz	6D12	4822 130 11397	BAS316
4102	4822 051 30008	Jumper 0603	5908	2422 549 45333	Bead 120Ω at 100MHz	6E01	9322 102 64685	UDZ2.7B
4103	4822 051 30008	Jumper 0603	5909	2422 549 45333	Bead 120Ω at 100MHz	6E03	9322 102 64685	UDZ2.7B
4104	4822 051 30008	Jumper 0603	5910	2422 549 45333	Bead 120Ω at 100MHz	6R01	4822 130 11397	BAS316
4106	4822 051 30008	Jumper 0603	5911	2422 549 45333	Bead 120Ω at 100MHz	6R61	4822 130 11564	UDZ3.9B
4107	4822 051 30008	Jumper 0603	5C00	2422 549 45333	Bead 120Ω at 100MHz	6R62	4822 130 11564	UDZ3.9B
4108	4822 051 30008	Jumper 0603	5D00	2422 549 42896	Bead 120Ω 100MHz	6R63	4822 130 11564	UDZ3.9B
4110	4822 051 30008	Jumper 0603	5D01	2422 549 42896	Bead 120Ω 100MHz	6R64	4822 130 11564	UDZ3.9B
4113	4822 051 30008	Jumper 0603	5D02	2422 549 42896	Bead 120Ω 100MHz	6R65	4822 130 11564	UDZ3.9B
4206	4822 051 20008	Jumper 0805	5D03	2422 549 42896	Bead 120Ω 100MHz	6R66	4822 130 11564	UDZ3.9B
4211	4822 117 13605	Jumper 0402	5D04	2422 549 42896	Bead 120Ω 100MHz	6R67	4822 130 11564	UDZ3.9B
4212	4822 117 13605	Jumper 0402	5D05	2422 549 42896	Bead 120Ω 100MHz	6R68	4822 130 11564	UDZ3.9B
4440	4822 117 13605	Jumper 0402	5D06	2422 549 42896	Bead 120Ω 100MHz			
4441	4822 117 13605	Jumper 0402	5D10	2422 549 44197	Bead 220Ω at 100MHz			
4601	4822 051 30008	Jumper 0603	5D11	2422 549 44197	Bead 220Ω at 100MHz			
4606	4822 051 30008	Jumper 0603	5D12	2422 536 00137	33μH 10%			
4614	4822 051 30008	Jumper 0603	5					

7102	3198 010 42310	BC847BW
7201	9340 550 49115	PUMH7
7202	9340 550 49115	PUMH7
7206	4822 130 60373	BC856B
7207		For SW see item 0802
7208	3198 010 42310	BC847BW
7209	3198 010 42310	BC847BW
7210	3198 010 42310	BC847BW
7214	9339 693 90135	BCP69-25
7215	9339 693 90135	BCP69-25
7216	9340 425 20115	BC847BS
7217		For SW see item 0801
7220	9340 560 36215	SMBSH111
7220	9340 560 36235	BSH111
7220	9965 000 04199	BSN20
7221	9340 560 36215	SMBSH111
7221	9340 560 36235	BSH111
7221	9965 000 04199	BSN20
7430	4822 130 11155	PDTCT114ET
7436	3198 010 70740	74LCX14T
7601	9322 183 05668	TS482ID
7602	9351 742 70118	74HC08PW
7604	3198 010 42310	BC847BW
7605	9340 310 50215	PDTA143ET
7606	9340 425 20115	BC847BS
7708	9322 139 16668	LF33CPT
7710	9322 182 77668	L6910
7711	9322 160 70668	SI4936ADY
7730	9322 202 34668	L5973D
7735	4822 130 11057	2N7002
7738	9322 163 24668	L78M08CDT
7741	3198 010 42310	BC847BW
7742	3198 010 42310	BC847BW
7801	9322 230 32671	GM1501-LF-CF
7900	9322 142 88668	LF25CDT
7901	9322 189 19668	LD1086D2T18
7A02	3198 010 42310	BC847BW
7A03	3198 010 42310	BC847BW
7B01	9322 235 50671	K4D263238I-UC50
7C01	9322 130 41668	M24C64-WMN6
7C02	9322 215 39685	PST596JN
7C03	9322 199 93668	M29W400DT-55N6
7D00		For SW see item 0821
7D01		For SW see item 0822
7D02	9322 189 19668	LD1086D2T18
7D03	9352 810 72557	TDA9974AEL/8/C107
7D03	9352 822 38557	IC SM TDA9974AEL/8
7D04	9352 668 39118	UDA1334ATS/N2
7D05	2722 171 00038	Xtal 13M5 15pF
7D10	9322 213 35668	LM339P
7D11	9340 425 20115	BC847BS
7D12	9340 425 20115	BC847BS
7D14	3198 010 42310	BC847BW
7D15	3198 010 44350	BC807-25W
7D16	9340 425 30115	BC847BPN
7D17	9340 219 30115	BC817-25W
7D18	9322 224 40668	FET FDS4559_NL
7D19	3198 010 42310	BC847BW
7D20	3198 010 44350	BC807-25W
7D21	9340 425 30115	BC847BPN
7D22	9340 219 30115	BC817-25W
7D23	9322 224 40668	FET FDS4559_NL
7D24	9340 219 30115	BC817-25W
7D25	9340 425 30115	BC847BPN
7D26	9340 425 30115	BC847BPN
7E00	9322 195 23668	ADG733BRU
7E01	9322 199 80668	SM5301BS-G
7E02	9322 199 56668	ADG781BCP
7E03	3198 010 71090	74HC4053D
7E04	3198 010 70740	74LCX14T
7E05	3198 010 70740	74LCX14T
7L01	9322 226 40671	P3563M-LF-80
7L02	4822 209 17398	LD1117DT33
7L51	3198 010 42310	BC847BW
7L52	3198 010 42320	BC857BW
7L61	3198 010 42310	BC847BW
7L62	3198 010 42320	BC857BW
7L71	3198 010 42310	BC847BW
7L72	9322 226 94668	SM5304AV-G
7M00	9322 204 76671	T6TU5XBG-0001
7M01	9322 206 19672	MSM56V16160F-7T3-FG
7M03	9322 170 14668	LF15ABDT
7N00	9322 230 92671	PACIFIC3-N3(O2)
7N02	9322 206 45682	IC SM M25P05-AVMN6P
7N03	9322 187 04668	LF25ABDT
7N04	9322 170 14668	LF15ABDT
7N05	3198 010 42310	BC847BW
7Q01	3198 010 42310	BC847BW
7Q02	3198 010 42310	BC847BW
7Q03	4822 209 15765	74HC4052D
7Q04	3198 010 42310	BC847BW
7Q05	3198 010 42310	BC847BW
7R01	9322 206 24668	M24C02-WMN6P

Side I/O Panel [D]

Various

1001	2422 026 05133	Connector SVHS 4p f
1002	2422 026 05807	Sckt Cinch 3p f YeWhRd
1010	4822 267 31014	Sckt headphone
1M36	2422 025 17179	Connector 11p m



2003	2022 552 05679	1μF 10% 16V 0805
2004	3198 016 36810	680pF 25V 0603
2005	2020 552 94427	100pF 5% 50V
2006	3198 016 36810	680pF 25V 0603
2007	2020 552 94427	100pF 5% 50V
2008	2238 916 15641	22nF 10% 25V 0603
2009	5322 126 11583	10nF 10% 50V 0603
2010	2238 916 15641	22nF 10% 25V 0603
2011	5322 126 11583	10nF 10% 50V 0603



3000	4822 051 30759	75Ω 5% 0.062W
3004	4822 051 30759	75Ω 5% 0.062W
3008	4822 051 30222	2.2kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30333	33kΩ 5% 0.062W
3011	4822 051 30392	3.9Ω 5% 0.063W 0603
3012	4822 051 30102	1kΩ 5% 0.062W
3013	4822 051 30333	33kΩ 5% 0.062W
3016	4822 051 30103	10kΩ 5% 0.062W
3020	4822 051 30103	10kΩ 5% 0.062W
9004	4822 051 30008	Jumper 0603
9005	4822 051 30008	Jumper 0603
9006	4822 051 30008	Jumper 0603
9007	4822 051 30008	Jumper 0603
9008	4822 051 30008	Jumper 0603
9009	4822 051 30008	Jumper 0603
9010	4822 051 30008	Jumper 0603
9011	4822 051 30008	Jumper 0603



6000	4822 130 11416	PDZ6.8B
6001	4822 130 11416	PDZ6.8B
6002	4822 130 11416	PDZ6.8B
6003	4822 130 11416	PDZ6.8B
6004	4822 130 11416	PDZ6.8B
6005	4822 130 11416	PDZ6.8B
6006	4822 130 11416	PDZ6.8B
6007	4822 130 11416	PDZ6.8B
6008	4822 130 11416	PDZ6.8B
6009	4822 130 11416	PDZ6.8B
6010	4822 130 11416	PDZ6.8B
6011	4822 130 11416	PDZ6.8B

Control Board [E]

Various

1701	4822 276 13775	Switch 1p 0.1A 12V
1702	4822 276 13775	Switch 1p 0.1A 12V
1703	4822 276 13775	Switch 1p 0.1A 12V
1704	4822 276 13775	Switch 1p 0.1A 12V
1705	4822 276 13775	Switch 1p 0.1A 12V
1706	4822 276 13775	Switch 1p 0.1A 12V
1M01	2422 025 10775	Connector 3p m



3002	4822 051 30151	150Ω 5% 0.062W
3003	4822 051 30391	390Ω 5% 0.062W
3004	4822 051 30561	560Ω 5% 0.062W
3005	4822 117 12968	820Ω 5% 0.62W
3006	3198 021 31820	1.8kΩ 5% 0.062W 0603
3999	4822 117 11454	820Ω 1% 0.1W

LED / IR Panel [J]

Various

0345	2422 025 18741	Connector 6p m
1040	9322 206 81667	TSOP34836YA1



2040	4822 124 12095	100μF 20% 16V
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3040	4822 117 13597	330Ω 5% 0.01W 0402
3051	4822 051 30221	220Ω 5% 0.062W
3061	4822 051 30221	220Ω 5% 0.062W
3063	4822 117 13606	10kΩ 5% 0.01W 0402
9012	4822 117 13605	Jumper 0402
9041	4822 117 13605	Jumper 0402
9042	4822 117 13605	Jumper 0402
9062	4822 117 13605	Jumper 0402
9066	4822 117 13606	10kΩ 5% 0.01W 0402
9081	4822 117 13605	Jumper 0402
9082	4822 117 13605	Jumper 0402
9083	4822 051 30008	Jumper 0603
9112	4822 117 13605	Jumper 0402
9115	4822 117 13605	Jumper 0402



6051	9322 218 97685	SML-310VTK
6060	9322 134 46685	SML-310MT



7051	3198 010 42310	BC847BW
7052	3198 010 42310	BC847BW
7062	4822 130 60373	BC856B

11. Revision List

- Manual xxxx xxx xxxx.0
- First release.